

Multi .12.94 9:49

NTP 179-500A TRANSIENT LIMITER CARD

PARTS LIST

Side 1

| REF. NO.   | NTP-ID.   | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.      |
|------------|-----------|------------------------------|-----|------------------|---------------|
| PARTS LIST |           |                              |     |                  |               |
| 5          | 250-3057  | INSULATION PLATE, ZFT MODULE | 3   | 250-3057-A-4     | 250-3057      |
| 10         | 179-5055  | COVER PLATE                  | 1   | 179-5055-A-3     | 179-5055      |
| 20         | 179-5057A | CARD EJECTOR                 | 1   | 179-5057-A-4     | 179-5057A     |
| 21         | MFF-0030  | WASHER                       | 1   | HFC 1245         | 1245 3,5      |
| 30         | 179-5058A | ISOLATION PLATE              | 1   | 179-5058-A-4     | 179-5058A     |
| 40         | 179-5054A | FRONT PLATE, PRINTED         | 1   | 179-5054-A-4     | 179-5054-A-4  |
| 45         | 179-5099A | LABEL                        | 1   | 179-5099-A-4     | 179-5099A     |
| 50         | 299-1055  | BUSCHING                     | 1   | 299-1055-A-4     | 299-1055      |
| 60         | MAB-0005  | RIVET                        | 1   | B2.5X0.25X8.5    | 81-25085-7300 |
| 70         | MAB-0005  | RIVET                        | 1   | B2.5X0.25X8.5    | 81-25085-7300 |
| 80         | MSB-2004  | SCREW BIX 2 X 4              | 1   | BIX              | LKCS 2 X 4    |
| 90         | MAS-2512  | SPANPIN                      | 1   | DIN 1481         | 2.5 X 12MM    |
| 100        | MET-0005  | STAY                         | 1   | ELMA             | 1923-01       |
| 110        | MSB-3006  | SCREW BIX 3 X 6              | 1   | BIX              | LKCS 3 X 6    |
| 120        | MSC-3005  | SCREW 3 X 5 CHJZ             | 1   | HFC 9033         | 3X 5 CHJZ     |
| A 1000     | 179-5039A | CARD W SMD COMPONENTS        | 1   | 179-5014-A-3     | 179-5039A     |
| A 1        | 250-350F  | ZFT-MODULE                   | 1   | 250-3541/74-F4   | 250-350F      |
| A 2        | 250-410A  | LPF MODULE (LOW PASS FILT.)  | 1   | 250-4174-A-4     | 250-410A      |
| A 3        | 179-5033A | DUAL GAIN STAGE MODULE       | 1   | 179-5043-A-4     | 179-5033A     |
| A 101      | 250-520C  | VCA MODULE                   | 1   | 250-5274-C-4     | 250-520C      |
| A 102      | 250-400A  | ADL MODULE (A/D DC LOG)      | 1   | 250-4074-A-4     | 250-400A      |
| A 201      | 250-520C  | VCA MODULE                   | 1   | 250-5274-C-4     | 250-520C      |
| A 301      | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4     | 250-350H      |
| A 302      | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4     | 250-350H      |
| A 303      | 250-610A  | TEST OUTPUT MODULE           | 1   | 250-6141-A-4     | 250-610A TEST |
| A 304      | 250-610A  | TEST OUTPUT MODULE           | 1   | 250-6141-A-4     | 250-610A TEST |
| A 305      | 250-620C  | AC/DC POWER SUPPLY MODULE    | 1   | 250-6241-C-4     | 250-620C      |
| C 1        | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K      | 10UF/35V Ø5X7 |
| C 2        | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K      | 10UF/35V Ø5X7 |
| C 3        | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K      | 10UF/35V Ø5X7 |
| C 4        | CFA-0922  | CAP ELECTROLYTIC 220UF/10V   | 1   | SIEMENS B41283   | C3227-T       |
| C 101      | CFC-0847  | ELECTROLYTIC CAPACIT. 47UF 2 | 1   | MARCONI          | CE SSM 1E470  |
| C 102      | CKB-0410  | CAP POLYESTER 1NF/100V       | 1   | WIMA FKS         | FKS 2 INF     |

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## TRANSIENT LIMITER CARD

## PARTS LIST

| REF. NO. | NTP-ID.   | DESCRIPTION                   | QTY | MANUFACT/DRW.NO. | PART NO.        |
|----------|-----------|-------------------------------|-----|------------------|-----------------|
| C 106    | CKA-0710  | CAP POLYESTER 1UF/50V         | 1   | WIMA MKS         | MKS 2 1UF       |
| C 107    | CKA-0533  | CAP POLYESTER 33NF/50V        | 1   | WIMA MKS         | MKS 2 33NF      |
| C 108    | CKC-0615  | CAP POLYESTER 150NF/63V       | 1   | WIMA MKS         | MKS 2 150NF     |
| C 109    | CKC-0647  | CAP POLYESTER 470NF/63V       | 1   | WIMA MKS         | MKS 2 470NF     |
| C 203    | CRB-0610  | CAP POLYESTER 100NF/100V      | 1   | WIMA MKS         | MKS2 100N/100V  |
| C 204    | CAA-0000  | CAPACITOR, NOT USED           | 1   | CAA-0000         | CAA-0000        |
| C 205    | CKB-0510  | CAP POLYESTER 10NF/100V       | 1   | WIMA FKS         | FKS 2 10NF      |
| C 206    | CTF-0622  | CAP TANTALUM 220NF/35V        | 1   | ERO ETP          | ETP 1A 220NF    |
| C 207    | CND-0447  | CAP POLYSTYRENE 4.7NF/63V     | 1   | PH 2222          | 2222 424 44702  |
| C 209    | CFC-0847  | ELECTROLYTIC CAPACIT. 4.7UF 2 | 1   | MARCON           | CE SSM 1E470    |
| C 301    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V     | 1   | PANASONIC K      | 10UF / 35V Ø5X7 |
| C 302    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5  | 1   | WIMA MRS 02      | 02 0.68/2/0/50  |
| C 309    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5  | 1   | WIMA MKS 02      | 02 0.68/20/50   |
| C 310    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%   |
| C 311    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%   |
| C 312    | CKL-0410  | CAP POLYESTER 1NF 630V 20%    | 1   | WIMA 1NF/630V    | MKS33 1N 20%    |
| C 313    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V     | 1   | PANASONIC K      | 10UF / 35V Ø5X7 |
| C 314    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%   |
| C 315    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%   |
| C 316    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%   |
| C 317    | CKL-0410  | CAP POLYESTER 1NF 630V 20%    | 1   | WIMA 1NF/630V    | MKS33 1N 20%    |
| C 318    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V     | 1   | PANASONIC K      | 10UF / 35V Ø5X7 |
| C 319    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%   |
| D 103    | OES-0130  | LIGHT EMITT. DIODE, RED       | 1   | HP               | HLMP-1700-101   |
| D 110    | OES-0131  | LIGHT EMITT. DIODE, GREEN     | 1   | HP               | HLMP-1790-101   |
| D 206    | OES-0132  | LIGHT EITT. DIODE, YELLOW     | 1   | HP               | HLMP-1719-101   |
| IC 1     | ILR-317T  | SPENDINGS REGULATOR           | 1   | TEX.             | TO-220          |
| IC 301   | ILR-317L  | SPENDINGS REGULATOR           | 1   | NAT.             | TO-92           |
| J 1      | KEM-6406  | EUROCONNECTOR 64P ANGLE, MAL  | 1   | ELCO             | 8257 096 000    |
| L 301    | 277-3070  | CHOKE                         | 1   |                  | 277-3070-A-4    |
| Q 303    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMENT | 1   | IOR              | IRFD9010        |
| Q 304    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT    | 1   | IOR              | IRFD 010        |
| Q 307    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMENT | 1   | IOR              | IRFD9010        |

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PARTS LIST 179-500A

Side 3

NTP 179-500A TRANSIENT LIMITER CARD

PARTS LIST

| REF. NO | NTP-ID.   | DESCRIPTION                  | QTY | PARTS LIST        |
|---------|-----------|------------------------------|-----|-------------------|
| Q 308   | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT   | 1   | IRFD 010          |
| R 1     | RTC-1370  | RESISTOR PTC 3R7             | 1   | PTC Q63100        |
| R 319   | RYA-2100  | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25     |
| R 320   | RYA-2100  | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25     |
| R 321   | RYA-2100  | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25     |
| R 322   | RYA-2100  | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25     |
| SW 1    | SRB-0004  | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020 |
| SW 2    | SRB-0004  | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020 |
| SW 3    | SRB-0004  | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020 |
| TP 1    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 2    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 3    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 4    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 5    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 6    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 7    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 8    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 9    | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 10   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 11   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 12   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 13   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 14   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 15   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 16   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 17   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 18   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 19   | MHT-0001  | TESTPOINT                    | 1   | VERO              |
| TP 20   | MHT-0001  | TESTPOINT                    | 1   | VERO              |

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SLUT

PARTS LIST 179-500A

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Side 1

| REF.NO | NTP-ID.   | DESCRIPTION                  | QTY | PARTS LIST     | MANUFACT/DRW.NO. PART NO. |
|--------|-----------|------------------------------|-----|----------------|---------------------------|
| 10     | 179-5055  | COVER PLATE                  | 1   | 179-5055-A-3   | 179-5055                  |
| 20     | 179-5057A | CARD EJECTOR                 | 1   | 179-5057-A-4   | 179-5057A                 |
| 21     | MFF-0030  | WASHER                       | 1   | HFC 1245       | 1245 3,5                  |
| 30     | 179-5058A | ISOLATION PLATE              | 1   | 179-5058-A     | 179-5058A                 |
| 40     | 179-5054A | FRONT PLATE, PRINTED         | 1   | 179-5054A      | 179-5054-A-4              |
| 45     | 179-5099A | LABEL                        | 1   | 179-5099-A-4   | 179-5099A                 |
| 50     | 299-1055  | BUSCHING                     | 1   | 299-1055-A-4   | 299-1055                  |
| 60     | MAB-0005  | RIVET                        | 1   | B2.5X0.25X8.5  | 81-25085-7300             |
| 70     | MAB-0005  | RIVET                        | 1   | B2.5X0.25X8.5  | 81-25085-7300             |
| 80     | MSB-2004  | SCREW BIX 2 X 4              | 1   | BIX            | LKCS 2 X 4                |
| 90     | MAS-2512  | SPANPIN                      | 1   | DIN 1481       | 2.5 X 12MM                |
| 100    | MET-0005  | STAY                         | 1   | ELMA           | 1923-01                   |
| 110    | MSB-3006  | SCREW BIX 3 X 6              | 1   | BIX            | LKCS 3 X 6                |
| 120    | MSC-3005  | SCREW 3 X 5 CHJZ             | 1   | HFC 9033       | 3X 5 CHJZ                 |
| A 1000 | 179-5039A | CARD W SMD COMPONENTS        | 1   | 179-5039A      | 179-5039A                 |
| A 1    | 250-350F  | ZFT-MODULE                   | 1   | 250-350-F-4    | 250-350F                  |
| A 2    | 250-410A  | LPF MODULE                   | 1   | 250-410A       | 250-410A                  |
| A 3    | 179-5033A | DUAL GAIN STAGE MODULE       | 1   | 179-5043-A-4   | 179-5033A                 |
| A 101  | 250-520C  | VCA MODULE                   | 1   | 250-520C       | 250-520C                  |
| A 102  | 250-400A  | ADL MODULE                   | 1   | 250-400A       | 250-400A                  |
| A 201  | 250-520C  | VCA MODULE                   | 1   | 250-520C       | 250-520C                  |
| A 301  | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4   | 250-350H                  |
| A 302  | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4   | 250-350H                  |
| A 303  | 250-610A  | OUTPUT MODULE                | 1   | 250-6141-A-4   | 250-610A                  |
| A 304  | 250-610A  | OUTPUT MODULE                | 1   | 250-6141-A-4   | 250-610A                  |
| A 305  | 250-620A  | TRANSFORMER                  | 1   | 250-6241-A-4   | 250-620A                  |
| C 1    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K    | 10UF/35V Ø5X7             |
| C 2    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K    | 10UF/35V Ø5X7             |
| C 3    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K    | 10UF/35V Ø5X7             |
| C 4    | CFA-0922  | CAP ELECTROLYTIC 220UF/10V   | 1   | SIEMENS B41283 | C3227-T                   |
| C 101  | CFC-0847  | ELECTROLYTIC CAPACIT. 47UF 2 | 1   | MARCON         | CE SSM 1E470              |
| C 102  | CKB-0410  | CAP POLYESTER 1NF/100V       | 1   | WIMA FKS       | FKS 2 1NF                 |
| C 106  | CKA-0710  | CAP POLYESTER 1UF/50V        | 1   | WIMA MKS       | MKS 2 1UF                 |

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NTP 179-500A TRANSIENT LIMITER CARD PARTS LIST

Side 2

179-500A PARTS LIST

| REF. NO. | NTP-ID.   | DESCRIPTION                  | QTY | PARTS LIST    |
|----------|-----------|------------------------------|-----|---------------|
| C 107    | CKA-0533  | CAP POLYESTER 33NF/50V       | 1   | WIMA MKS      |
| C 108    | CKC-0615  | CAP POLYESTER 150NF/63V      | 1   | WIMA MKS      |
| C 109    | CKC-0647  | CAP POLYESTER 470NF/63V      | 1   | WIMA MKS      |
| C 203    | CKB-0610  | CAP POLYESTER 100NF/100V     | 1   | WIMA MKS      |
| C 204    | CAA-0000  | CAPACITOR, NOT USED          | 1   | CAA-0000      |
| C 205    | CKB-0510  | CAP POLYESTER 10NF/100V      | 1   | WIMA FKS      |
| C 206    | CTF-0622  | CAP TANTALUM 220NF/35V       | 1   | ERO ETP       |
| C 207    | CND-0447  | CAP POLYSTYRENE 4.7NF/63V    | 1   | PH 2222 424   |
| C 209    | CFC-0847  | ELECTROLYTIC CAPACIT. 4.7UF  | 2   | MARCON        |
| C 301    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K   |
| C 302    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5 | 1   | WIMA MKS 02   |
| C 309    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5 | 1   | WIMA MKS 02   |
| C 310    | CKD-0710  | CAP POLYESTER 1UF 50V 20%    | 1   | WIMA 1UF/50V  |
| C 311    | CKD-0710  | CAP POLYESTER 1UF 50V 20%    | 1   | WIMA 1UF/50V  |
| C 312    | CKL-0410  | CAP POLYESTER 1NF 630V 20%   | 1   | WIMA 1NF/630V |
| C 313    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K   |
| C 314    | CKD-0710  | CAP POLYESTER 1UF 50V 20%    | 1   | WIMA 1UF/50V  |
| C 315    | CKD-0710  | CAP POLYESTER 1UF 50V 20%    | 1   | WIMA 1UF/50V  |
| C 316    | CKD-0710  | CAP POLYESTER 1UF 50V 20%    | 1   | WIMA 1UF/50V  |
| C 317    | CKL-0410  | CAP POLYESTER 1NF 630V 20%   | 1   | WIMA 1NF/630V |
| C 318    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V    | 1   | PANASONIC K   |
| C 319    | CKD-0710  | CAP POLYESTER 1UF 50V 20%    | 1   | WIMA 1UF/50V  |
| D 103    | OES-0130  | LIGHT EMITT. DIODE, RED      | 1   | HP            |
| D 110    | OES-0131  | LIGHT EMITT. DIODE, GREEN    | 1   | HP            |
| D 206    | OES-0132  | LIGHT EITT. DIODE, YELLOW    | 1   | HP            |
| IC 1     | ILR-317T  | SPENDINGS REGULATOR          | 1   | TEX. TO-220   |
| IC 301   | ILR-317L  | SPENDINGS REGULATOR          | 1   | NAT. TO-92    |
| J 1      | KEM-6406  | EUROCONNECTOR 64P ANGLE, MAL | 1   | ELCO 8257     |
| L 301    | 277-3070  | CHOKE                        | 1   | 277-3070-A-4  |
| Q 303    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMEN | 1   | IRFD9010      |
| Q 304    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT   | 1   | IRFD 010      |
| Q 307    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMEN | 1   | IRFD9010      |
| Q 308    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT   | 1   | IRFD 010      |

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List No.: 179-5031-A4

| REF. NO | NTP-ID.  | DESCRIPTION                  | QTY | PARTS LIST<br>MANUFACT/DRW.NO. PART NO. |
|---------|----------|------------------------------|-----|---|
| R 1     | RTC-1370 | RESISTOR PTC 3R7             | 1   | PTC Q63100                              |
| R 319   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILLIPS NFR25                          |
| R 320   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILLIPS NFR25                          |
| R 321   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILLIPS NFR25                          |
| R 322   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILLIPS NFR25                          |
| SW 1    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020                       |
| SW 2    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020                       |
| SW 3    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020                       |
| TP 1    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 2    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 3    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 4    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 5    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 6    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 7    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 8    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 9    | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 10   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 11   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 12   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 13   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 14   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 15   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 16   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 17   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 18   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 19   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |
| TP 20   | MHT-0001 | TESTPOINT                    | 1   | VERO                                    |

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NTP 179-500A PARTS LIST

Side 1

NTP TRANSIENT LIMITER CARD

179-500A

| REF. NO | NTP-ID.   | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.        |
|---------|-----------|------------------------------|-----|------------------|-----------------|
| 10      | 179-5055  | COVER PLATE                  | 1   | 179-5055-A-3     | 179-5055        |
| 20      | 179-5057A | CARD EJECTOR                 | 1   | 179-5057-A-4     | 179-5057A       |
| 21      | MFF-0030  | WASHER                       | 1   | HFC 1245         | 1245 3,5        |
| 30      | 179-5058A | ISOLATION PLATE              | 1   | 179-5058-A       | 179-5058A       |
| 40      | 179-5054A | FRONT PLATE, PRINTED         | 1   | 179-5054A        | 179-5054-A-4    |
| 45      | 179-5099A | LABEL                        | 1   | 179-5099-A-4     | 179-5099A       |
| 50      | 299-1055  | BUSCHING                     | 1   | 299-1055-A-4     | 299-1055        |
| 60      | MAB-0005  | RIVET                        | 1   | B2.5X0.25X8.5    | 81-25085-7300   |
| 70      | MAB-0005  | RIVET                        | 1   | B2.5X0.25X8.5    | 81-25085-7300   |
| 80      | MSB-2004  | SCREW BIX 2 X 4              | 1   | BIX              | LKCS 2 X 4      |
| 90      | MAS-2512  | SPANPIN                      | 1   | DIN 1481         | 2.5 X 12MM      |
| 100     | MET-0005  | STAY                         | 1   | ELMA             | 1923-01         |
| 110     | MSB-3006  | SCREW BIX 3 X 6              | 1   | BIX              | LKCS 3 X 6      |
| 120     | MSC-3005  | SCREW 3 X 5 CHJZ             | 1   | HFC 9033         | 3X 5 CHJZ       |
| A 1000  | 179-5039A | CARD W SMD COMPONENTS        | 1   | 179-5039A        | 179-5039A       |
| A 1     | 250-350F  | ZFT-MODULE                   | 1   | 250-350-F-4      | 250-350F        |
| A 2     | 250-410A  | LPF MODULE                   | 1   | 250-410A         | 250-410A        |
| A 3     | 179-5033A | DUAL GAIN STAGE MODULE       | 1   | 179-5043-A-4     | 179-5033A       |
| A 101   | 250-520C  | VCA MODULE                   | 1   | 250-520C         | 250-520C        |
| A 102   | 250-400A  | ADL MODULE                   | 1   | 250-400A         | 250-400A        |
| A 201   | 250-520C  | VCA MODULE                   | 1   | 250-520C         | 250-520C        |
| A 301   | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4     | 250-350H        |
| A 302   | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4     | 250-350H        |
| A 303   | 250-610A  | OUTPUT MODULE                | 1   | 250-6141-A-4     | 250-610A        |
| A 304   | 250-610A  | OUTPUT MODULE                | 1   | 250-6141-A-4     | 250-610A        |
| A 305   | 250-620A  | TRANSFORMER                  | 1   | 250-6241-A-4     | 250-620A        |
| C 1     | CGI-0810  | CAP ELECTROLYTIC 10UF / 35V  | 1   | PANASONIC K      | 10UF / 35V Ø5X7 |
| C 2     | CGI-0810  | CAP ELECTROLYTIC 10UF / 35V  | 1   | PANASONIC K      | 10UF / 35V Ø5X7 |
| C 3     | CGI-0810  | CAP ELECTROLYTIC 10UF / 35V  | 1   | PANASONIC K      | 10UF / 35V Ø5X7 |
| C 4     | CFA-0922  | CAP ELECTROLYTIC 220UF / 10V | 1   | SIEMENS B41283   | C3227-T         |
| C 101   | CFC-0847  | ELECTROLYTIC CAPACIT. 47UF 2 | 1   | MARCON           | CE SSM 1E470    |
| C 102   | CKB-0410  | CAP POLYESTER 1NF / 100V     | 1   | WIMA FKS         | FKS 2 INF       |
| C 106   | CKA-0710  | CAP POLYESTER 1UF / 50V      | 1   | WIMA MKS         | MKS 2 1UF       |

**NTP Parts List**

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## NTP 179-500A TRANSIENT LIMITER CARD

## PARTS LIST

| REF. NO. | NTP-ID.   | DESCRIPTION                   | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|-----------|-------------------------------|-----|------------------|----------------|
| C 107    | CRA-0533  | CAP POLYESTER 33NF/50V        | 1   | WIMA MKS         | MKS 2 33NF     |
| C 108    | CKC-0615  | CAP POLYESTER 150NF/63V       | 1   | WIMA MKS         | MKS 2 150NF    |
| C 109    | CKC-0647  | CAP POLYESTER 470NF/63V       | 1   | WIMA MKS         | MKS 2 470NF    |
| C 203    | CKB-0610  | CAP POLYESTER 100NF/100V      | 1   | WIMA MKS         | MKS2 100N/100V |
| C 204    | CAA-0000  | CAPACITOR, NOT USED           | 1   | CAA-0000         | CAA-0000       |
| C 205    | CKB-0510  | CAP POLYESTER 10NF/100V       | 1   | WIMA FKS         | FKS 2 10NF     |
| C 206    | CTF-0622  | CAP TANTALUM 220NF/35V        | 1   | ERO ETP          | ETP 1A 220NF   |
| C 207    | CND-0447  | CAP POLYSTYRENE 4.7NF/63V     | 1   | PH 2222 424      | 2222 424 44702 |
| C 209    | CFC-0847  | ELECTROLYTIC CAPACIT. 47UF 2  | 1   | MARCON           | CE SSM 1E470   |
| C 301    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V     | 1   | PANASONIC K      | 10UF/35V Ø5X7  |
| C 302    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5  | 1   | WIMA MKS 02      | 02 0.68/20/50  |
| C 309    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5  | 1   | WIMA MKS 02      | 02 0.68/20/50  |
| C 310    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 311    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 312    | CKL-0410  | CAP POLYESTER 1NF 630V 20%    | 1   | WIMA 1NF/630V    | MKS33 1N 20%   |
| C 313    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V     | 1   | PANASONIC K      | 10UF/35V Ø5X7  |
| C 314    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 315    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 316    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 317    | CKL-0410  | CAP POLYESTER 1NF 630V 20%    | 1   | WIMA 1NF/630V    | MKS33 1N 20%   |
| C 318    | CGI-0810  | CAP ELECTROLYTIC 10UF/35V     | 1   | PANASONIC K      | 10UF/35V Ø5X7  |
| C 319    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| D 103    | OES-0130  | LIGHT EMITT. DIODE, RED       | 1   | HP               | HLMP-1700-101  |
| D 110    | OES-0131  | LIGHT EMITT. DIODE, GREEN     | 1   | HP               | HLMP-1790-101  |
| D 206    | OES-0132  | LIGHT EMITT. DIODE, YELLOW    | 1   | HP               | HLMP-1719-101  |
| IC 1     | ILR-317T  | SPÆNDINGS REGULATOR           | 1   | TEX. TO-220      | LM 317T        |
| IC 301   | ILR-317L  | SPÆNDINGS REGULATOR           | 1   | NAT. TO-92       | LM 317L        |
| J 1      | KEM-6406  | EUROCONNECTOR 64P ANGLE, MAL  | 1   | ELCO 8257        | 8257 096 000   |
| L 301    | 277-3070  | CHOKE                         | 1   | 277-3070-A-4     | 277-3070       |
| Q 303    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMENT | 1   | IOR              | IRFD9010       |
| Q 304    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT    | 1   | IOR              | IRFD 010       |
| Q 307    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMENT | 1   | IOR              | IRFD9010       |
| Q 308    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT    | 1   | IOR              | IRFD 010       |

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## TRANSIENT LIMITER CARD

## PARTS LIST

| REF. NO | NTP-ID.  | DESCRIPTION                   | QTY | PARTS LIST                    |
|---------|----------|-------------------------------|-----|-------------------------------|
|         |          |                               |     | PART NO.                      |
| R 319   | RYA-2100 | RESISTOR FUSIBLE 10R 0 .33W 5 | 1   | PHILLIPS NFR25 2322 205 23109 |
| R 320   | RYA-2100 | RESISTOR FUSIBLE 10R 0 .33W 5 | 1   | PHILLIPS NFR25 2322 205 23109 |
| R 321   | RYA-2100 | RESISTOR FUSIBLE 10R 0 .33W 5 | 1   | PHILLIPS NFR25 2322 205 23109 |
| R 322   | RYA-2100 | RESISTOR FUSIBLE 10R 0 .33W 5 | 1   | PHILLIPS NFR25 2322 205 23109 |
| SW 1    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW    | 1   | HOPT & S. 422 020             |
| SW 2    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW    | 1   | HOPT & S. 422 020             |
| SW 3    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW    | 1   | HOPT & S. 422 020             |
| TP 1    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 2    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 3    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 4    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 5    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 6    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 7    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 8    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 9    | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 10   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 11   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 12   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 13   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 14   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 15   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 16   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 17   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 18   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 19   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |
| TP 20   | MHT-0001 | TESTPOINT                     | 1   | VERO 20-2137D                 |

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## TRANSIENT LIMITER CARD

## PARTS LIST

| REF. NO. | NTP-ID.   | DESCRIPTION                  | QTY | PARTS LIST     | MANUFACT/DRW.NO. | PART NO.        |
|----------|-----------|------------------------------|-----|----------------|------------------|-----------------|
| 10       | 179-5055  | COVER PLATE                  | 1   | 179-5055-A-3   |                  | 179-5055        |
| 20       | 179-5057A | CARD EJECTOR                 | 1   | 179-5057-A-4   |                  | 179-5057A       |
| 30       | 179-5058A | ISOLATION PLATE              | 1   | 179-5058-A     |                  | 179-5058A       |
| 40       | 179-5054A | FRONT PLATE , PRINTED        | 1   | 179-5054A      |                  | 179-5054-A-4    |
| 45       | 179-5099A | LABEL                        | 1   | 179-5099-A-4   |                  | 179-5099A       |
| 50       | 299-1055  | BUSCHING                     | 1   | 299-1055-A-4   |                  | 299-1055        |
| 60       | MAB-0005  | RIVET                        | 1   | B2.5X0 .25X8.5 |                  | 81-25085-7300   |
| 70       | MAB-0005  | RIVET                        | 1   | B2.5X0 .25X8.5 |                  | 81-25085-7300   |
| 80       | MSB-2004  | SCREW BIX 2 X 4              | 1   | BIX            |                  | LKCS 2 X 4      |
| 90       | MAS-2512  | SPANPIN                      | 1   | DIN 1481       |                  | 2.5 X 12MM      |
| 100      | MET-0005  | STAY                         | 1   | ELMA           |                  | 1923-01         |
| 110      | MSB-3006  | SCREW BIX 3 X 6              | 1   | BIX            |                  | LKCS 3 X 6      |
| 120      | MSC-3005  | SCREW 3 X 5 CHJZ             | 1   | HFC 9033       |                  | 3X 5 CHJZ       |
| 1000     | 179-5039A | CARD W SMD COMPONENTS        | 1   | 179-5039A      |                  | 179-5039A       |
| A 1      | 250-350F  | ZFT-MODULE                   | 1   | 250-350-F-4    |                  | 250-350F        |
| A 2      | 250-410A  | LPF MODULE                   | 1   | 250-410A       |                  | 250-410A        |
| A 3      | 179-5033A | DUAL GAIN STAGE MODULE       | 1   | 179-5043-A-4   |                  | 179-5033A       |
| A 101    | 250-520C  | VCA MODULE                   | 1   | 250-520C       |                  | 250-520C        |
| A 102    | 250-400A  | ADL MODULE                   | 1   | 250-400A       |                  | 250-400A        |
| A 201    | 250-520C  | VCA MODULE                   | 1   | 250-520C       |                  | 250-520C        |
| A 301    | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4   |                  | 250-350H        |
| A 302    | 250-350H  | ZFT-MODULE 0 DB              | 1   | 250-3541-F-4   |                  | 250-350H        |
| A 303    | 250-610A  | OUTPUT MODULE                | 1   | 250-6141-A-4   |                  | 250-610A        |
| A 304    | 250-610A  | OUTPUT MODULE                | 1   | 250-6141-A-4   |                  | 250-610A        |
| A 305    | 250-620A  | TRANSFORMER                  | 1   | 250-6241-A-4   |                  | 250-620A        |
| C 1      | CGI-0810  | CAP ELECTROLYTIC 10UF / 35V  | 1   | PANASONIC K    |                  | 10UF / 35V Ø5X7 |
| C 2      | CGI-0810  | CAP ELECTROLYTIC 10UF / 35V  | 1   | PANASONIC K    |                  | 10UF / 35V Ø5X7 |
| C 3      | CGI-0810  | CAP ELECTROLYTIC 10UF / 35V  | 1   | PANASONIC K    |                  | 10UF / 35V Ø5X7 |
| C 4      | CFA-0922  | CAP ELECTROLYTIC 220UF / 10V | 1   | SIEMENS B41283 |                  | C3227-T         |
| C 101    | CFC-0847  | ELECTROLYTIC CAPACIT. 47UF 2 | 1   | MARCON         |                  | CE SSM 1E470    |
| C 102    | CKB-0410  | CAP POLYESTER 1NF / 100V     | 1   | WIMA FKS       |                  | FKS 2 INF       |
| C 106    | CKA-0710  | CAP POLYESTER 1UF / 50V      | 1   | WIMA MKS       |                  | MKS 2 1UF       |
| C 107    | CKA-0533  | CAP POLYESTER 33NF / 50V     | 1   | WIMA MKS       |                  | MKS 2 33NF      |

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NTP 179-500A PARTS LIST

Side 2

NTP 179-500A TRANSIENT LIMITER CARD

PARTS LIST

| REF. NO. | NTP-ID.   | DESCRIPTION                   | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|-----------|-------------------------------|-----|------------------|----------------|
| C 108    | CRC-0615  | CAP POLYESTER 150NF/63V       | 1   | WIMA MKS         | MKS 2 150NF    |
| C 109    | CKC-0647  | CAP POLYESTER 470NF/63V       | 1   | WIMA MKS         | MKS 2 470NF    |
| C 203    | CKC-0615  | CAP POLYESTER 150NF/63V       | 1   | WIMA MKS         | MKS 2 150NF    |
| C 204    | CKB-0447  | CAP POLYESTER 4.7NF/100V      | 1   | WIMA FKS         | FKS 2 4.7NF    |
| C 205    | CKB-0447  | CAP POLYESTER 4.7NF/100V      | 1   | WIMA FKS         | FKS 2 4.7NF    |
| C 206    | CTF-0622  | CAP TANTALUM 220NF/35V        | 1   | ERO ETP          | ETP 1A 220NF   |
| C 207    | CND-0447  | CAP POLYSTYRENE 4.7NF/63V     | 1   | PH 2222 424      | 2222 424 44702 |
| C 209    | CFC-0847  | ELECTROLYTIC CAPACIT. 47UF 2  | 1   | MARCON           | CE SSM 1E470   |
| C 301    | CGI-0810  | CAP ELECTROLYTIC 10UF/3.5V    | 1   | PANASONIC K      | 10UF/35V Ø5X7  |
| C 302    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5  | 1   | WIMA MKS         | 02 0.68/20/50  |
| C 309    | CKD-0668  | CAPACITOR, POLYESTER 680NF 5  | 1   | WIMA MKS         | 02 0.68/20/50  |
| C 310    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 311    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 312    | CKL-0410  | CAP POLYESTER 1NF 630V 20%    | 1   | WIMA 1NF/630V    | MKS33 1N 20%   |
| C 313    | CGI-0810  | CAP ELECTROLYTIC 10UF/3.5V    | 1   | PANASONIC K      | 10UF/35V Ø5X7  |
| C 314    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 315    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 316    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| C 317    | CKL-0410  | CAP POLYESTER 1NF 630V 20%    | 1   | WIMA 1NF/630V    | MKS33 1N 20%   |
| C 318    | CGI-0810  | CAP ELECTROLYTIC 10UF/3.5V    | 1   | PANASONIC K      | 10UF/35V Ø5X7  |
| C 319    | CKD-0710  | CAP POLYESTER 1UF 50V 20%     | 1   | WIMA 1UF/50V     | MKS02 1UF 20%  |
| D 103    | OES-0130  | LIGHT EMITT. DIODE, RED       | 1   | HP               | HIMP-1700-101  |
| D 110    | OES-0131  | LIGHT EMITT. DIODE, GREEN     | 1   | HP               | HIMP-1790-101  |
| D 206    | OES-0132  | LIGHT EITT. DIODE, YELLOW     | 1   | HP               | HIMP-1719-101  |
| JC 1     | ILR-317T  | SPENDINGS REGULATOR           | 1   | TEX. TO-220      | LM 317T        |
| IC 301   | ILR-317L  | EUROCONNECTOR 64P ANGLE, MAL  | 1   | NAT. TO-92       | LM 317L        |
| J 1      | KEM-6406  | CHOKE                         | 1   | ELCO 8257        | 8257 096 000   |
| L 301    | 277-3070  |                               | 1   | 277-3070-A-4     | 277-3070       |
| Q 303    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMENT | 1   | IOR              | IRFD9010       |
| Q 304    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT    | 1   | IOR              | IRFD 010       |
| Q 307    | QFV-9010  | HEX FET P-CHANNEL ENHANCEMENT | 1   | IOR              | IRFD9010       |
| Q 308    | QFV-0010C | HEXFET N-CHAN. ENHANCEMENT    | 1   | IOR              | IRFD 010       |
| R 319    | RYA-2100  | RESISTOR FUSIBLE 10R 0.33W 5  | 1   | PHILIPS NFR25    | 2322 205 23109 |

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Side 3

PARTS LIST 179-500A

NTP 179-500A TRANSIENT LIMITER CARD

PARTS LIST

| REF.NO. | NTP-ID.  | DESCRIPTION                  | QTY | PARTS LIST                   |
|---------|----------|------------------------------|-----|------------------------------|
| R 320   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25 2322 205 23109 |
| R 321   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25 2322 205 23109 |
| R 322   | RYA-2100 | RESISTOR FUSIBLE 10R 0.33W 5 | 1   | PHILIPS NFR25 2322 205 23109 |
| SW 1    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020            |
| SW 2    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020            |
| SW 3    | SRB-0004 | ROTARY SWITCH 9 POS YELLOW   | 1   | HOPT & S. 422 020            |
| TP 1    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 2    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 3    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 4    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 5    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 6    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 7    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 8    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 9    | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 10   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 11   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 12   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 13   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 14   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 15   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 16   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 17   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 18   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 19   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |
| TP 20   | MHT-0001 | TESTPOINT                    | 1   | VERO 20-2137D                |

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PARTS LIST 179-500A

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PARTS LIST

172-5039B

## CARD W SMD COMPONENTS

## PARTS LIST

| REF.NO | NTP-ID.       | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.       | Side |
|--------|---------------|------------------------------|-----|------------------|----------------|------|
| 100    | 179-5040B     | PRINT BOARD                  | 1   | CAD              | 179-5040B      | 1    |
| C 103  | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |      |
| C 104  | X CDDL-0522FB | CAP CERAMIC 22NF 10%         | 1   | SIEMENS B37872   | K5223-K62      |      |
| C 105  | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |      |
| C 201  | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PHILIPS          | 2222-15279     |      |
| C 202  | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PHILIPS          | 2222-15279     |      |
| C 208  | X CCD-0315E   | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PCC106P 150P5% |      |
| C 210  | X CCD-0222F   | CAP CERAMIC 63V 22PF 5%      | 1   | SIEMENS B37871   | K5220-J62      |      |
| C 211  | X CCD-0315E   | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PCC106P 150P5% |      |
| C 303  | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |      |
| C 304  | X CCD-0310G   | CAP CERAMIC 50V 1206 100PF 2 | 1   | SIEMENS B37871   | J5101-M9       |      |
| C 305  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |      |
| C 306  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |      |
| C 307  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |      |
| C 308  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |      |
| C 320  | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |      |
| C 321  | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |      |
| D 1    | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |      |
| D 2    | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |      |
| D 3    | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |      |
| D 4    | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |      |
| D 5    | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |      |
| D 101  | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |      |
| D 102  | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |      |
| D 104  | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |      |
| D 105  | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |      |
| D 106  | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |      |
| D 107  | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |      |
| D 108  | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |      |
| D 109  | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |      |
| D 111  | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |      |
| D 112  | X QZ2-0023    | NOT MOUNTED                  | 1   | XQZ2-0023        | XQZ2-0023      |      |
| D 201  | X QTZ-0027B   | TRANSIENT DIODE              | 1   | MICROSEMI        | SMSJ24A        |      |

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PARTS LIST 179-5039B

Side 2

NTP 179-5039B CARD W SMD COMPONENTS

PARTS LIST

| REF. NO. | NTP - ID.  | DESCRIPTION                | QTY | MANUFACT/DRW.NO. | PART NO.   |
|----------|------------|----------------------------|-----|------------------|------------|
| D 202    | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 203    | XQDS-0021B | DIODE, GENERAL PURPOSE     | 1   | PHILIPS          | BAS 21     |
| D 204    | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 205    | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 207    | XQZD-0047B | ZENER DIODE 4V7            | 1   | PHILIPS          | BZX84C4V7  |
| D 208    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 209    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 210    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 301    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 302    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 305    | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| D 306    | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| IC 2     | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 101   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 102   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 103   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 201   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 202   | XILA-0275A | DUAL OPERATIONAL AMPLIFIER | 1   | OP 275GS         | OP 275GS   |
| IC 203   | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 204   | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 302   | XICA-4047A | MONO/ASTABLE MULTIVIBRATOR | 1   | PHILLIPS HEF     | HEF4047BT  |
| P 1      | XRFB-4200G | POTENIOMETER 2K 20%        | 1   | TOCOS            | G4 A 202 M |
| P 2      | XRFB-5200G | POTENIOMETER 20K 20%       | 1   | TOCOS            | G4 A 203 M |
| P 201    | XRFB-5200G | POTENIOMETER 20K 20%       | 1   | TOCOS            | G4 A 203 M |
| P 301    | XRFB-4100G | POTENIOMETER 1 K 20%       | 1   | TOCOS            | G4 A 102 M |
| P 302    | XRFB-4100G | POTENIOMETER 1 K 20%       | 1   | TOCOS            | G4 A 102 M |
| Q 101    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 102    | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |
| Q 103    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 104    | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |
| Q 105    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 106    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 107    | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |

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## NTP 179-5039B CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION               | QTY | MANUFACT/DRW.NO. | PART NO.       |
|---------|------------|---------------------------|-----|------------------|----------------|
| Q 201   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 202   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 203   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 204   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 205   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 206   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 207   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 208   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 209   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 210   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 211   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 301   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 302   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 305   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 306   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 309   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 310   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| R 2     | XRMD-5178C | RESISTOR METAL 17.8K 1%   | 1   | PHILIPS RC 02G   | RC 02G 17.8K1% |
| R 3     | XRMD-4150C | RESISTOR METAL 1.50K 1%   | 1   | PHILIPS RC02H    | RC02H 1K5 1%   |
| R 4     | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50   | 50 15.0K 0.1%  |
| R 5     | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50   | 50 15.0K 0.1%  |
| R 6     | XRMD-4100E | RESISTOR METAL 1K 5%      | 1   | PHILIPS RC01     | RC01 1K 5%     |
| R 7     | XRMD-2100E | RESISTOR METAL 10R 5%     | 1   | PHILIPS RC01     | RC01 10R 5%    |
| R 8     | XRMD-0000  | RESISTOR, NOT USED        | 1   | XRMD-0000        | XRMD-0000      |
| R 101   | XRMD-3470C | RESISTOR METAL 470R 1%    | 1   | PHILIPS RC 02G   | RC 02G 470R1%  |
| R 102   | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H    | RC01 392K 1%   |
| R 103   | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H    | RC01 392K 1%   |
| R 104   | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 105   | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 106   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G   | RC 02G 100K1%  |
| R 107   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G   | RC 02G 100K1%  |
| R 108   | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01     | RC01 49.9K 1%  |
| R 109   | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01     | RC01 49.9K 1%  |

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## NTP 179-5039B CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | PARTS LIST     |
|----------|------------|-------------------------|-----|----------------|
| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | PARTS LIST     |
| R 110    | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILIPS RC 02G |
| R 111    | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILIPS RC01   |
| R 112    | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILIPS RC01   |
| R 113    | XRMD-4332C | RESISTOR METAL 3.32K 1% | 1   | PHILIPS RC 02G |
| R 114    | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILIPS RC 02G |
| R 115    | XRMD-5110C | RESISTOR METAL 11.0K 1% | 1   | PHILIPS RC 02G |
| R 116    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G |
| R 117    | XRMD-4560E | RESISTOR METAL 5.6K 5%  | 1   | PHILIPS RC01   |
| R 118    | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILIPS RC01   |
| R 119    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 120    | XRMD-4100E | RESISTOR METAL 1K 5%    | 1   | PHILIPS RC01   |
| R 121    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 122    | XRMD-7330E | RESISTOR METAL 3.3M 5%  | 1   | PHILIPS RC01   |
| R 123    | XRMD-6221C | RESISTOR METAL 221K 1%  | 1   | PHILIPS RC02H  |
| R 124    | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01   |
| R 125    | XRMD-5220E | RESISTOR METAL 22K 5%   | 1   | PHILIPS RC01   |
| R 126    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   |
| R 127    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   |
| R 128    | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILIPS RC01   |
| R 129    | XRMD-6100C | RESISTOR METAL 100K 1%  | 1   | PHILIPS RC 02G |
| R 130    | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILIPS RC01   |
| R 131    | XRMD-7150C | RESISTOR METAL 1.50M 1% | 1   | PHILIPS RC02H  |
| R 132    | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILIPS RC01   |
| R 133    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G |
| R 134    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G |
| R 135    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G |
| R 136    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G |
| R 137    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 138    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 139    | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILIPS RC02H  |
| R 140    | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILIPS RC02H  |
| R 141    | XRMD-0000  | RESISTOR, NOT USED      | 1   | XRMD-0000      |
| R 142    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01   |

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## NTP 179-5039B CARD W SMD COMPONENTS

## PARTS LIST

| REF.NO | NTP-ID.    | DESCRIPTION                  | QTY | PART NO.       | MANUFACT/DRW.NO. | PART NO. |
|--------|------------|------------------------------|-----|----------------|------------------|----------|
| R 143  | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01   | RC01 200K 1%     |          |
| R 144  | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01   | RC01 200K 1%     |          |
| R 145  | XRMD-5102C | RESISTOR METAL 1206 10K2 1%  | 1   | PHILIPS RC 02G | RC 02G 10K2 1%   |          |
| R 201  | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01   | RC01 100K 5%     |          |
| R 202  | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01   | RC01 100K 5%     |          |
| R 203  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01   | RC01 10K 5%      |          |
| R 204  | XRMD-5100C | RESISTOR METAL 10 .0K 1%     | 1   | PHILIPS RC 02G | RC 02G 10 .0K1%  |          |
| R 205  | XRMD-4562C | RESISTOR METAL 5 .62K 1%     | 1   | PHILIPS RC 02G | RC 02G 5 .62K1%  |          |
| R 206  | XRMD-4562C | RESISTOR METAL 5 .62K 1%     | 1   | PHILIPS RC 02G | RC 02G 5 .62K1%  |          |
| R 207  | XRMD-5100C | RESISTOR METAL 10 .0K 1%     | 1   | PHILIPS RC 02G | RC 02G 10 .0K1%  |          |
| R 208  | XRMD-4221C | RESISTOR METAL 2 .21K 1%     | 1   | PHILIPS RC 02G | RC 02G 2 .21K1%  |          |
| R 209  | XRMD-4221C | RESISTOR METAL 2 .21K 1%     | 1   | PHILIPS RC 02G | RC 02G 2 .21K1%  |          |
| R 210  | XRMD-3332C | RESISTOR METAL 332R 1%       | 1   | PHILIPS RC 02G | RC 02G 332R1%    |          |
| R 211  | XRMD-4100C | RESISTOR METAL 1206 1.00K 1% | 1   | PHILIPS RC 02G | RC 02G 1.00K1%   |          |
| R 212  | XRMD-3150C | RESISTOR METAL 150R 1%       | 1   | PHILIPS RC 02G | RC 02G 150R1%    |          |
| R 213  | XRMD-3365C | RESISTOR METAL 365R 1%       | 1   | PHILIPS RC02H  | RC02 365R 1%     |          |
| R 214  | XRMD-8100E | RESISTOR METAL 10M 5%        | 1   | PHILIPS RC01   | RC01 10M 5%      |          |
| R 215  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01   | RC01 10K 5%      |          |
| R 216  | XRMD-5220E | RESISTOR METAL 22K 5%        | 1   | PHILIPS RC01   | RC01 22K 5%      |          |
| R 217  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01   | RC01 10K 5%      |          |
| R 218  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01   | RC01 10K 5%      |          |
| R 219  | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01   | RC01 1M 5%       |          |
| R 220  | XRMD-6680E | RESISTOR METAL 680K 5%       | 1   | PHILIPS RC01   | RC01 680K 5%     |          |
| R 221  | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01   | RC01 100K 5%     |          |
| R 222  | XRMD-4330E | RESISTOR METAL 3 .3K 5%      | 1   | PHILIPS RC01   | RC01 3 .3K 5%    |          |
| R 223  | XRMD-5220C | RESISTOR METAL 20 .0K 1%     | 1   | PHILIPS RC02H  | RC02 20 .0K      |          |
| R 224  | XRMD-4845C | RESISTOR METAL 8 .45K 1%     | 1   | PHILIPS RC02   | RC01 8 .45K 1%   |          |
| R 225  | XRMD-5182C | RESISTOR METAL 1206 18K2 1%  | 1   | PHILIPS RC 02G | RC 02G 18K2 1%   |          |
| R 226  | XRMD-4470E | RESISTOR METAL 4 .7K 5%      | 1   | PHILIPS RC01   | RC01 4 .7K 5%    |          |
| R 227  | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G | RC 02G 4 .99K1%  |          |
| R 228  | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G | RC 02G 4 .99K1%  |          |
| R 229  | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G | RC 02G 4 .99K1%  |          |
| R 230  | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G | RC 02G 4 .99K1%  |          |

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PARTS LIST

179-5039B

NTP 179-5039B CARD W SMD COMPONENTS

PARTS LIST

179-5039B

| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | PARTS LIST     | PARTS LIST     |
|----------|------------|-------------------------|-----|----------------|----------------|
| R 231    | XRMD-4499C | RESISTOR METAL 4.99K 1% | 1   | PHILIPS RC 02G | RC 02G 4.99K1% |
| R 232    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G | RC 02G 10.0K1% |
| R 233    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G | RC 02G 10.0K1% |
| R 234    | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01   | RC01 47K 5%    |
| R 235    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01   | RC01 100K 5%   |
| R 236    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01   | RC01 100K 5%   |
| R 237    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |
| R 238    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |
| R 239    | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILIPS RC01   | RC01 10R 5%    |
| R 240    | XRMD-6475C | RESISTOR METAL 475K 1%  | 1   | PHILIPS RC02H  | RC02 475K 1%   |
| R 301    | XRMD-3470E | RESISTOR METAL 470R 5%  | 1   | PHILIPS RC01   | RC01 470R 5%   |
| R 302    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |
| R 303    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G | RC 02G 10.0K1% |
| R 304    | XRMD-4825C | RESISTOR METAL 8.25K 1% | 1   | PHILIPS RC02   | RC01 8.25K 1%  |
| R 305    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |
| R 306    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |
| R 307    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |
| R 308    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |
| R 309    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |
| R 310    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |
| R 311    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |
| R 312    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |
| R 313    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |
| R 314    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |
| R 315    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |
| R 316    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |
| R 317    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |
| R 318    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |
| R 323    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   | RC01 2.2K 5%   |
| R 324    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   | RC01 2.2K 5%   |
| R 325    | XRMD-4249C | RESISTOR METAL 2.49K 1% | 1   | PHILIPS RC 02G | RC 02G 2.49K1% |
| R 326    | XRMD-4249C | RESISTOR METAL 2.49K 1% | 1   | PHILIPS RC 02G | RC 02G 2.49K1% |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.       | DESCRIPTION                  | QTY | MANUFACT/DRW NO. | PART NO.       |
|---------|---------------|------------------------------|-----|------------------|----------------|
| 100     | 179-5040A     | PRINT BOARD                  | 1   | CAD              | 179-5040A      |
| C 103   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 104   | X CDDL-0522FB | CAP CERAMIC 22NF 10%         | 1   | SIEMENS B37872   | K5223-K62      |
| C 105   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 201   | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PHILIPS          | 2222-15279     |
| C 202   | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PHILIPS          | 2222-15279     |
| C 208   | X CCD-0315E   | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PCC106P 150P5% |
| C 210   | X CCD-0222F   | CAP CERAMIC 63V 22PF 5%      | 1   | SIEMENS B37871   | K5220-J62      |
| C 211   | X CCD-0315E   | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PCC106P 150P5% |
| C 303   | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 304   | X CCD-0310G   | CAP CERAMIC 50V 1206 100PF 2 | 1   | SIEMENS B37871   | J5101-M9       |
| C 305   | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 306   | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 307   | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 308   | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 320   | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 321   | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| D 1     | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |
| D 2     | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |
| D 3     | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |
| D 4     | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILIPS          | BYD17D-115     |
| D 5     | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |
| D 101   | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |
| D 102   | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 104   | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 105   | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 106   | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |
| D 107   | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 108   | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |
| D 109   | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 111   | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21         |
| D 112   | X QZ Z-0023   | NOT MOUNTED                  | 1   | X QZ Z-0023      | SMSJ24A        |
| D 201   | X QTZ-0027B   | TRANSIENT DIODE              | 1   | MICROSEMI        |                |

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PARTS LIST 179-5039A

NTP 179-5039A CARD W SMD COMPONENTS

PARTS LIST

| REF.NO | NTP-ID.    | DESCRIPTION                | QTY | MANUFACT/DRW.NO. | PART NO.   |
|--------|------------|----------------------------|-----|------------------|------------|
| D 202  | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 203  | XQDS-0021B | DIODE, GENERAL PURPOSE     | 1   | PHILIPS          | BAS 21     |
| D 204  | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 205  | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 207  | XQZD-0047B | ZENER DIODE 4V7            | 1   | PHILIPS          | BZX84C4V7  |
| D 208  | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 209  | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 210  | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 301  | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 302  | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 305  | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| D 306  | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| IC 2   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 101 | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 102 | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 103 | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 201 | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 202 | XILA-0275A | DUAL OPERATIONAL AMPLIFIER | 1   | ANALOG DEV       | OP 275GS   |
| IC 203 | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 204 | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 302 | XICA-4047A | MONO/ASTABLE MULTIVIBRATOR | 1   | PHILIPS          | HEF4047BT  |
| P 1    | XRFB-4200G | POTENTIOMETER 2K 20%       | 1   | TOCOS            | G4 A 202 M |
| P 2    | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS            | G4 A 203 M |
| P 201  | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS            | G4 A 203 M |
| P 301  | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS            | G4 A 102 M |
| P 302  | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS            | G4 A 102 M |
| Q 101  | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 102  | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |
| Q 103  | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 104  | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |
| Q 105  | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 106  | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 107  | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |

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PARTS LIST 179-5039A

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NTP 179-5039A CARD W SMD COMPONENTS

PARTS LIST

| REF.NO | NTP-ID.    | DESCRIPTION               | QTY | MANUFACT/DRW.NO. | PART NO.       |
|--------|------------|---------------------------|-----|------------------|----------------|
| Q 201  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 202  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 203  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 204  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 205  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 206  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 207  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 208  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 209  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 210  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 211  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 301  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 302  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 305  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 306  | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS          | BC857B         |
| Q 309  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| Q 310  | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS          | BC847B         |
| R 2    | XRMD-5178C | RESISTOR METAL 17.8K 1%   | 1   | PHILIPS RC 02G   | RC 02G 17.8K1% |
| R 3    | XRMD-4150C | RESISTOR METAL 1.50K 1%   | 1   | PHILIPS RC02H    | RC02H 1K5 1%   |
| R 4    | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50   | 50 15.0K 0.1%  |
| R 5    | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50   | 50 15.0K 0.1%  |
| R 6    | XRMD-4100E | RESISTOR METAL 1K 5%      | 1   | PHILIPS RC01     | RC01 1K 5%     |
| R 7    | XRMD-2100E | RESISTOR METAL 10R 5%     | 1   | PHILIPS RC01     | RC01 10R 5%    |
| R 8    | XRMD-0000  | RESISTOR, NOT USED        | 1   | XRMD-0000        |                |
| R 101  | XRMD-3470C | RESISTOR METAL 470R 1%    | 1   | PHILIPS RC 02G   | RC 02G 470R1%  |
| R 102  | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H    | RC01 392K 1%   |
| R 103  | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H    | RC01 392K 1%   |
| R 104  | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 105  | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 106  | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G   | RC 02G 100K1%  |
| R 107  | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G   | RC 02G 100K1%  |
| R 108  | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01     | RC01 49.9K 1%  |
| R 109  | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01     | RC01 49.9K 1%  |

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NTP 179-5039A PARTS LIST 179-5039A Side 4

## CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION               | QTY | MANUFACT/DRW.NO. | PART NO.         |
|---------|------------|---------------------------|-----|------------------|------------------|
| R 110   | XRMD-5133C | RESISTOR METAL 13 . 3K 1% | 1   | PHILIPS RC 02G   | RC 02G 13 . 3K1% |
| R 111   | XRMD-6330E | RESISTOR METAL 330K 5%    | 1   | PHILIPS RC01     | RC01 330K 5%     |
| R 112   | XRMD-5120E | RESISTOR METAL 12K 5%     | 1   | PHILIPS RC01     | RC01 12K 5%      |
| R 113   | XRMD-4332C | RESISTOR METAL 3 . 32K 1% | 1   | PHILIPS RC 02G   | RC 02G 3 . 32K1% |
| R 114   | XRMD-5133C | RESISTOR METAL 13 . 3K 1% | 1   | PHILIPS RC 02G   | RC 02G 13 . 3K1% |
| R 115   | XRMD-5110C | RESISTOR METAL 11 . 0K 1% | 1   | PHILIPS RC 02G   | RC 02G 11 . 0K1% |
| R 116   | XRMD-5100C | RESISTOR METAL 10 . 0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10 . 0K1% |
| R 117   | XRMD-4560E | RESISTOR METAL 5 . 6K 5%  | 1   | PHILIPS RC01     | RC01 5 . 6K 5%   |
| R 118   | XRMD-5100E | RESISTOR METAL 10K 5%     | 1   | PHILIPS RC01     | RC01 10K 5%      |
| R 119   | XRMD-7100E | RESISTOR METAL 1M 5%      | 1   | PHILIPS RC01     | RC01 1M 5%       |
| R 120   | XRMD-4100E | RESISTOR METAL 1K 5%      | 1   | PHILIPS RC01     | RC01 1K 5%       |
| R 121   | XRMD-7100E | RESISTOR METAL 1M 5%      | 1   | PHILIPS RC01     | RC01 1M 5%       |
| R 122   | XRMD-7330E | RESISTOR METAL 3 . 3M 5%  | 1   | PHILIPS RC01     | RC01 3 . 3M 5%   |
| R 123   | XRMD-6221C | RESISTOR METAL 221K 1%    | 1   | PHILIPS RC02H    | RC01 221K 1%     |
| R 124   | XRMD-5470E | RESISTOR METAL 47K 5%     | 1   | PHILIPS RC01     | RC01 47K 5%      |
| R 125   | XRMD-5220E | RESISTOR METAL 22K 5%     | 1   | PHILIPS RC01     | RC01 22K 5%      |
| R 126   | XRMD-4220E | RESISTOR METAL 2 . 2K 5%  | 1   | PHILIPS RC01     | RC01 2 . 2K 5%   |
| R 127   | XRMD-4220E | RESISTOR METAL 2 . 2K 5%  | 1   | PHILIPS RC01     | RC01 2 . 2K 5%   |
| R 128   | XRMD-5120E | RESISTOR METAL 12K 5%     | 1   | PHILIPS RC01     | RC01 12K 5%      |
| R 129   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G   | RC 02G 100K1%    |
| R 130   | XRMD-6330E | RESISTOR METAL 330K 5%    | 1   | PHILIPS RC01     | RC01 330K 5%     |
| R 131   | XRMD-7150C | RESISTOR METAL 1 . 50M 1% | 1   | PHILIPS RC02H    | RC01 1 . 50M 1%  |
| R 132   | XRMD-5100E | RESISTOR METAL 10K 5%     | 1   | PHILIPS RC01     | RC01 10K 5%      |
| R 133   | XRMD-5100C | RESISTOR METAL 10 . 0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10 . 0K1% |
| R 134   | XRMD-5100C | RESISTOR METAL 10 . 0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10 . 0K1% |
| R 135   | XRMD-4200C | RESISTOR METAL 2 . 00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2 . 00K1% |
| R 136   | XRMD-4200C | RESISTOR METAL 2 . 00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2 . 00K1% |
| R 137   | XRMD-7100E | RESISTOR METAL 1M 5%      | 1   | PHILIPS RC01     | RC01 1M 5%       |
| R 138   | XRMD-7100E | RESISTOR METAL 1M 5%      | 1   | PHILIPS RC01     | RC01 1M 5%       |
| R 139   | XRMD-5200C | RESISTOR METAL 20 . 0K 1% | 1   | PHILIPS RC02H    | RC02 20 . 0K     |
| R 140   | XRMD-5200C | RESISTOR METAL 20 . 0K 1% | 1   | PHILIPS RC02H    | RC02 20 . 0K     |
| R 141   | XRMD-0000  | RESISTOR, NOT USED        | 1   | XRMD-0000        | XRMD-0000        |
| R 142   | XRMD-6100E | RESISTOR METAL 100K 5%    | 1   | PHILIPS RC01     | RC01 100K 5%     |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO    | NTP-ID.    | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.       |
|------------|------------|------------------------------|-----|------------------|----------------|
| PARTS LIST |            |                              |     |                  |                |
| R 143      | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 144      | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 145      | XRMD-5102C | RESISTOR METAL 1206 10K2 1%  | 1   | PHILIPS RC 02G   | RC 02G 10K2 1% |
| R 201      | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 202      | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 203      | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 204      | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 205      | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILIPS RC 02G   | RC 02G 5.62K1% |
| R 206      | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILIPS RC 02G   | RC 02G 5.62K1% |
| R 207      | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 208      | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILIPS RC 02G   | RC 02G 2.21K1% |
| R 209      | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILIPS RC 02G   | RC 02G 2.21K1% |
| R 210      | XRMD-3332C | RESISTOR METAL 332R 1%       | 1   | PHILIPS RC 02G   | RC 02G 332R1%  |
| R 211      | XRMD-4100C | RESISTOR METAL 1206 1.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 1.00K1% |
| R 212      | XRMD-3150C | RESISTOR METAL 150R 1%       | 1   | PHILIPS RC 02G   | RC 02G 150R1%  |
| R 213      | XRMD-3365C | RESISTOR METAL 365R 1%       | 1   | PHILIPS RC02H    | RC02 365R 1%   |
| R 214      | XRMD-8100E | RESISTOR METAL 10M 5%        | 1   | PHILIPS RC01     | RC01 10M 5%    |
| R 215      | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 216      | XRMD-5220E | RESISTOR METAL 22K 5%        | 1   | PHILIPS RC01     | RC01 22K 5%    |
| R 217      | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 218      | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 219      | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 220      | XRMD-6680E | RESISTOR METAL 680K 5%       | 1   | PHILIPS RC01     | RC01 680K 5%   |
| R 221      | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 222      | XRMD-4330E | RESISTOR METAL 3.3K 5%       | 1   | PHILIPS RC01     | RC01 3.3K 5%   |
| R 223      | XRMD-5200C | RESISTOR METAL 20.0K 1%      | 1   | PHILIPS RC02H    | RC02 20.0K     |
| R 224      | XRMD-4845C | RESISTOR METAL 8.45K 1%      | 1   | PHILIPS RC02     | RC01 8.45K 1%  |
| R 225      | XRMD-5182C | RESISTOR METAL 1206 18K2 1%  | 1   | PHILIPS RC 02G   | RC 02G 18K2 1% |
| R 226      | XRMD-4470E | RESISTOR METAL 4.7K 5%       | 1   | PHILIPS RC01     | RC01 4.7K 5%   |
| R 227      | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 228      | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 229      | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 230      | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |

**NTP Parts List**

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|------------|-------------------------|-----|------------------|----------------|
| R 231    | XRMD-4499C | RESISTOR METAL 4.99K 1% | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 232    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 233    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 234    | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01     | RC01 47K 5%    |
| R 235    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 236    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 237    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 238    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 239    | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILIPS RC01     | RC01 10R 5%    |
| R 240    | XRMD-6475C | RESISTOR METAL 475K 1%  | 1   | PHILIPS RC02H    | RC02 475K 1%   |
| R 301    | XRMD-3470E | RESISTOR METAL 470R 5%  | 1   | PHILIPS RC01     | RC01 470R 5%   |
| R 302    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 303    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 304    | XRMD-4825C | RESISTOR METAL 8.25K 1% | 1   | PHILIPS RC02     | RC01 8.25K 1%  |
| R 305    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 306    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 307    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 308    | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 309    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 310    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 311    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 312    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 313    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 314    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 315    | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 316    | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 317    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 318    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 323    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |
| R 324    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |

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NTP 179-5039A CARD W SMD COMPONENTS

PARTS LIST

| REF. NO | NTP-ID.       | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.       |
|---------|---------------|------------------------------|-----|------------------|----------------|
| 100     | 179-5040A     | PRINT BOARD                  | 1   | CAD              | 179-5040A      |
| C 103   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 104   | X CDDL-0522FB | CAP CERAMIC 22NF 10%         | 1   | SIEMENS B37872   | K5223-K62      |
| C 105   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 201   | XCCC-0227G    | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX           | 2222 15279     |
| C 202   | XCCC-0227G    | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX           | 2222 15279     |
| C 208   | XCCD-0315E    | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PCC106P 150P5% |
| C 210   | XCCD-0222F    | CAP CERAMIC 63V 22PF 5%      | 1   | SIEMENS B37871   | K5220-J62      |
| C 211   | XCCD-0315E    | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PCC106P 150P5% |
| C 303   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 304   | XCCD-0310G    | CAP CERAMIC 50V 1206 100PF 2 | 1   | SIEMENS B37871   | J5101-M9       |
| C 305   | XCCC-0447GD   | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 306   | XCCC-0447GD   | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 307   | XCCC-0447GD   | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 308   | XCCC-0447GD   | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9       |
| C 320   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| C 321   | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62      |
| D 1     | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115     |
| D 2     | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115     |
| D 3     | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115     |
| D 4     | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115     |
| D 5     | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21         |
| D 101   | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21         |
| D 102   | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 104   | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 105   | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 106   | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21         |
| D 107   | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 108   | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21         |
| D 109   | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163    |
| D 111   | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21         |
| D 112   | XQZZ-0023     | NOT MOUNTED                  | 1   | XQZZ-0023        | XQZZ-0023      |
| D 201   | XQTZ-0027B    | TRANSIENT DIODE              | 1   | MICROSEMI        | SMSJ24A        |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION                | QTY | PARTS LIST  | MANUFACT/DRW.NO. | PART NO.    |
|---------|------------|----------------------------|-----|-------------|------------------|-------------|
| D 202   | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS     | BAV99            |             |
| D 203   | XQDS-0021B | DIODE, GENERAL PURPOSE     | 1   | PHILIPS     | BAS 21           |             |
| D 204   | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS     | BAV99            |             |
| D 205   | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS     | BAV99            |             |
| D 207   | XQZD-0047B | ZENER DIODE 4V7            | 1   | PHILIPS     | BZX84C4V7        |             |
| D 208   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS     | BAS28            | Q62702 A163 |
| D 209   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS     | BAS28            | Q62702 A163 |
| D 210   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS     | BAS28            | Q62702 A163 |
| D 301   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS     | BAS28            | Q62702 A163 |
| D 302   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS     | BAS28            | Q62702 A163 |
| D 305   | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI   | SMSJ24A          |             |
| D 306   | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI   | SMSJ24A          |             |
| IC 2    | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS       | TL072CD          |             |
| IC 101  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS       | TL072CD          |             |
| IC 102  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS       | TL072CD          |             |
| IC 103  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS       | TL072CD          |             |
| IC 201  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS       | TL072CD          |             |
| IC 202  | XILA-0275A | DUAL OPERATIONAL AMPLIFIER | 1   | ANALOG DEV  | OP 275GS         |             |
| IC 203  | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA     | TC4S66F          |             |
| IC 204  | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA     | TC4S66F          |             |
| IC 302  | XICA-4047A | MONO/ASTABLE MULTIVIBRATOR | 1   | PHILIPS HEF | HEF4047BT        |             |
| P 1     | XRFB-4200G | POTENTIOMETER 2K 20%       | 1   | TOCOS       | G4 A 202 M       |             |
| P 2     | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS       | G4 A 203 M       |             |
| P 201   | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS       | G4 A 203 M       |             |
| P 301   | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS       | G4 A 102 M       |             |
| P 302   | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS       | G4 A 102 M       |             |
| Q 101   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS     | BC847B           |             |
| Q 102   | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS     | BC857B           |             |
| Q 103   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS     | BC847B           |             |
| Q 104   | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS     | BC857B           |             |
| Q 105   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS     | BC847B           |             |
| Q 106   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS     | BC847B           |             |
| Q 107   | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS     | BC857B           |             |

## NTP Parts List

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## CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION               | QTY | PARTS LIST     | MANUFACT/DRW.NO. | PART NO.   |
|---------|------------|---------------------------|-----|----------------|------------------|------------|
| Q 201   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 202   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 203   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 204   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 205   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 206   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 207   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 208   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 209   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 210   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 211   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 301   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 302   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 305   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 306   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS        | BC857B           |            |
| Q 309   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| Q 310   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS        | BC847B           |            |
| R 2     | XRMD-5178C | RESISTOR METAL 17.8K 1%   | 1   | PHILIPS RC 02G | RC 02G           | 17.8K1%    |
| R 3     | XRMD-4150C | RESISTOR METAL 1.50K 1%   | 1   | PHILIPS RC02H  | RC02H            | 1K5 1%     |
| R 4     | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50 | 50               | 15.0K 0.1% |
| R 5     | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50 | 50               | 15.0K 0.1% |
| R 6     | XRMD-4100E | RESISTOR METAL 1K 5%      | 1   | PHILIPS RC01   | RC01             | 1K 5%      |
| R 7     | XRMD-2100E | RESISTOR METAL 10R 5%     | 1   | PHILIPS RC01   | RC01             | 10R 5%     |
| R 8     | XRMD-0000  | RESISTOR, NOT USED        | 1   | XRMD-0000      | XRMD-0000        |            |
| R 101   | XRMD-3470C | RESISTOR METAL 470R 1%    | 1   | PHILIPS RC 02G | RC 02G           | 470R1%     |
| R 102   | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H  | RC01             | 392K 1%    |
| R 103   | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H  | RC01             | 392K 1%    |
| R 104   | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01   | RC01             | 200K 1%    |
| R 105   | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01   | RC01             | 200K 1%    |
| R 106   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G | RC 02G           | 100K1%     |
| R 107   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G | RC 02G           | 100K1%     |
| R 108   | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01   | RC01             | 49.9K 1%   |
| R 109   | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01   | RC01             | 49.9K 1%   |

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## NTP 179-5039A CARD W SMD COMPONENTS

| REF. NO | NTP-ID.    | DESCRIPTION             | QTY | PARTS LIST     |
|---------|------------|-------------------------|-----|----------------|
| R 110   | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILIPS RC 02G |
| R 111   | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILIPS RC01   |
| R 112   | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILIPS RC01   |
| R 113   | XRMD-4332C | RESISTOR METAL 3.32K 1% | 1   | PHILIPS RC 02G |
| R 114   | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILIPS RC 02G |
| R 115   | XRMD-5110C | RESISTOR METAL 11.0K 1% | 1   | PHILIPS RC 02G |
| R 116   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G |
| R 117   | XRMD-4560E | RESISTOR METAL 5.6K 5%  | 1   | PHILIPS RC01   |
| R 118   | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILIPS RC01   |
| R 119   | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 120   | XRMD-4100E | RESISTOR METAL 1K 5%    | 1   | PHILIPS RC01   |
| R 121   | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 122   | XRMD-7330E | RESISTOR METAL 3.3M 5%  | 1   | PHILIPS RC01   |
| R 123   | XRMD-6221C | RESISTOR METAL 221K 1%  | 1   | PHILIPS RC02H  |
| R 124   | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01   |
| R 125   | XRMD-5220E | RESISTOR METAL 22K 5%   | 1   | PHILIPS RC01   |
| R 126   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   |
| R 127   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   |
| R 128   | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILIPS RC01   |
| R 129   | XRMD-6100C | RESISTOR METAL 100K 1%  | 1   | PHILIPS RC 02G |
| R 130   | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILIPS RC01   |
| R 131   | XRMD-7150C | RESISTOR METAL 1.50M 1% | 1   | PHILIPS RC02H  |
| R 132   | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILIPS RC01   |
| R 133   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G |
| R 134   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G |
| R 135   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G |
| R 136   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G |
| R 137   | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 138   | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01   |
| R 139   | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILIPS RC02H  |
| R 140   | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILIPS RC02H  |
| R 141   | XRMD-0000  | RESISTOR, NOT USED      | 1   | XRMD-0000      |
| R 142   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01   |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|------------|------------------------------|-----|------------------|----------------|
| R 143    | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILLIPS RC01    | RC01 200K 1%   |
| R 144    | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILLIPS RC01    | RC01 200K 1%   |
| R 145    | XRMD-5102C | RESISTOR METAL 1206 10K2 1%  | 1   | PHILLIPS RC 02G  | RC 02G 10K2 1% |
| R 201    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILLIPS RC01    | RC01 100K 5%   |
| R 202    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILLIPS RC01    | RC01 100K 5%   |
| R 203    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 204    | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 205    | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 5.62K1% |
| R 206    | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 5.62K1% |
| R 207    | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 208    | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 2.21K1% |
| R 209    | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 2.21K1% |
| R 210    | XRMD-3332C | RESISTOR METAL 332R 1%       | 1   | PHILLIPS RC 02G  | RC 02G 332R1%  |
| R 211    | XRMD-4100C | RESISTOR METAL 1206 1.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 1.00K1% |
| R 212    | XRMD-3150C | RESISTOR METAL 150R 1%       | 1   | PHILLIPS RC 02G  | RC 02G 150R1%  |
| R 213    | XRMD-3365C | RESISTOR METAL 365R 1%       | 1   | PHILLIPS RC02H   | RC02 365R 1%   |
| R 214    | XRMD-8100E | RESISTOR METAL 10M 5%        | 1   | PHILLIPS RC01    | RC01 10M 5%    |
| R 215    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 216    | XRMD-5220E | RESISTOR METAL 22K 5%        | 1   | PHILLIPS RC01    | RC01 22K 5%    |
| R 217    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 218    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 219    | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 220    | XRMD-6680E | RESISTOR METAL 680K 5%       | 1   | PHILLIPS RC01    | RC01 680K 5%   |
| R 221    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILLIPS RC01    | RC01 100K 5%   |
| R 222    | XRMD-4330E | RESISTOR METAL 3.3K 5%       | 1   | PHILLIPS RC01    | RC01 3.3K 5%   |
| R 223    | XRMD-5200C | RESISTOR METAL 20.0K 1%      | 1   | PHILLIPS RC02H   | RC02 20.0K     |
| R 224    | XRMD-4845C | RESISTOR METAL 8.45K 1%      | 1   | PHILLIPS RC02    | RC02 8.45K 1%  |
| R 225    | XRMD-5182C | RESISTOR METAL 1206 18K2 1%  | 1   | PHILLIPS RC 02G  | RC 02G 18K2 1% |
| R 226    | XRMD-4470E | RESISTOR METAL 4.7K 5%       | 1   | PHILLIPS RC01    | RC01 4.7K 5%   |
| R 227    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 4.99K1% |
| R 228    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 4.99K1% |
| R 229    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 4.99K1% |
| R 230    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILLIPS RC 02G  | RC 02G 4.99K1% |

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NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|---------|------------|-------------------------|-----|------------------|----------------|
| R 231   | XRMD-4499C | RESISTOR METAL 4.99K 1% | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 232   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 233   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 234   | XRMD-5470E | RESISTOR METAL 4.7K 5%  | 1   | PHILIPS RC01     | RC01 4.7K 5%   |
| R 235   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 236   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 237   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 238   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 239   | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILIPS RC01     | RC01 10R 5%    |
| R 240   | XRMD-6475C | RESISTOR METAL 475K 1%  | 1   | PHILIPS RC02H    | RC02 475K 1%   |
| R 301   | XRMD-3470E | RESISTOR METAL 470R 5%  | 1   | PHILIPS RC01     | RC01 470R 5%   |
| R 302   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 303   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 304   | XRMD-4825C | RESISTOR METAL 8.25K 1% | 1   | PHILIPS RC02     | RC01 8.25K 1%  |
| R 305   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 306   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 307   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 308   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 309   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 310   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 311   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 312   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 313   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 314   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 315   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 316   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 317   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 318   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 323   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |
| R 324   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |

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NTP 179-5039A PARTS LIST

Side 1

## CARD W SMD COMPONENTS

## PARTS LIST

| REF.NO | NTP-ID.       | DESCRIPTION                  | QTY | PARTS LIST                |
|--------|---------------|------------------------------|-----|---------------------------|
| 100    | 179-5040A     | PRINT BOARD                  | 1   | CAD                       |
| C 103  | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873            |
| C 104  | X CDDL-0522FB | CAP CERAMIC 22NF 10%         | 1   | SIEMENS B37872            |
| C 105  | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873            |
| C 201  | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX                    |
| C 202  | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX                    |
| C 208  | XCCD-0315E    | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN               |
| C 210  | XCCD-0222F    | CAP CERAMIC 63V 22PF 5%      | 1   | SIEMENS B37871            |
| C 211  | XCCD-0315E    | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN               |
| C 303  | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873            |
| C 304  | X CCD-0310G   | CAP CERAMIC 50V 1206 100PF 2 | 1   | SIEMENS B37871            |
| C 305  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701            |
| C 306  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701            |
| C 307  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701            |
| C 308  | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701            |
| C 320  | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873            |
| C 321  | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873            |
| D 1    | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS BYD17D-115       |
| D 2    | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS BYD17D-115       |
| D 3    | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS BYD17D-115       |
| D 4    | XQDS-0017F    | DIODE, HIGH CURRENT          | 1   | PHILLIPS BYD17D-115       |
| D 5    | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS BAS 21           |
| D 101  | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS BAS 21           |
| D 102  | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28 Q62702 A163 |
| D 104  | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28 Q62702 A163 |
| D 105  | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28 Q62702 A163 |
| D 106  | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS BAS 21           |
| D 107  | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28 Q62702 A163 |
| D 108  | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS BAS 21           |
| D 109  | XQDS-0028T    | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28 Q62702 A163 |
| D 111  | XQDS-0021B    | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS BAS 21           |
| D 112  | XQZZ-0023     | NOT MOUNTED                  | 1   | XQZZ-0023                 |
| D 201  | XQTZ-0027B    | TRANSIENT DIODE              | 1   | MICROSEMI SMSJ24A         |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF.NO | NTP-ID.     | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.   |
|--------|-------------|------------------------------|-----|------------------|------------|
| D 202  | XQDS-0099B  | DIODE, DUAL                  | 1   | SIEMENS          | BAV99      |
| D 203  | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILIPS          | BAS 21     |
| D 204  | XQDS-0099B  | DIODE, DUAL                  | 1   | SIEMENS          | BAV99      |
| D 205  | XQDS-0099B  | DIODE, DUAL                  | 1   | SIEMENS          | BAV99      |
| D 207  | XQZD-0047B  | ZENER DIODE 4V7              | 1   | PHILIPS          | BZX84C4V7  |
| D 208  | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS          | BAS28      |
| D 209  | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS          | BAS28      |
| D 210  | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS          | BAS28      |
| D 301  | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS          | BAS28      |
| D 302  | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS          | BAS28      |
| D 305  | XQTZ-0027B  | TRANSIENT DIODE              | 1   | MICROSEMI        | SMSJ24A    |
| D 306  | XQTZ-0027B  | TRANSIENT DIODE              | 1   | MICROSEMI        | SMSJ24A    |
| IC 2   | XILA-0072A  | OPERATIONAL AMPLIFIER        | 1   | TEXAS            | TL072CD    |
| IC 101 | XILA-0072A  | OPERATIONAL AMPLIFIER        | 1   | TEXAS            | TL072CD    |
| IC 102 | XILA-0072A  | OPERATIONAL AMPLIFIER        | 1   | TEXAS            | TL072CD    |
| IC 103 | XILA-0072A  | OPERATIONAL AMPLIFIER        | 1   | TEXAS            | TL072CD    |
| IC 201 | XILA-0072A  | OPERATIONAL AMPLIFIER        | 1   | TEXAS            | TL072CD    |
| IC 202 | XILA-0275A  | DUAL OPERATIONAL AMPLIFIER   | 1   | ANALOG DEV       | OP 275GS   |
| IC 203 | XICA-4S66A  | ANALOG SWITCH X1             | 1   | TOSHIBA          | TC4S66F    |
| IC 204 | XICA-4S66A  | ANALOG SWITCH X1             | 1   | TOSHIBA          | TC4S66F    |
| IC 302 | XICA-4047A  | MONO / ASTABLE MULTIVIBRATOR | 1   | PHILIPS          | HEF        |
| P 1    | XRFB-4-200G | POTENTIOMETER 2K 20%         | 1   | TOCOS            | HEF4047BT  |
| P 2    | XRFB-5200G  | POTENTIOMETER 20K 20%        | 1   | TOCOS            | G4 A 202 M |
| P 201  | XRFB-5200G  | POTENTIOMETER 20K 20%        | 1   | TOCOS            | G4 A 203 M |
| P 301  | XRFB-4100G  | POTENTIOMETER 1 K 20%        | 1   | TOCOS            | G4 A 203 M |
| P 302  | XRFB-4100G  | POTENTIOMETER 1 K 20%        | 1   | TOCOS            | G4 A 102 M |
| Q 101  | XQBN-0847B  | TRANSISTOR NPN               | 1   | PHILIPS          | BC847B     |
| Q 102  | XQBP-0857B  | TRANSISTOR PNP               | 1   | PHILIPS          | BC857B     |
| Q 103  | XQBN-0847B  | TRANSISTOR NPN               | 1   | PHILIPS          | BC847B     |
| Q 104  | XQBP-0857B  | TRANSISTOR PNP               | 1   | PHILIPS          | BC857B     |
| Q 105  | XQBN-0847B  | TRANSISTOR NPN               | 1   | PHILIPS          | BC847B     |
| Q 106  | XQBN-0847B  | TRANSISTOR NPN               | 1   | PHILIPS          | BC847B     |
| Q 107  | XQBP-0857B  | TRANSISTOR PNP               | 1   | PHILIPS          | BC857B     |

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## NTP 179-5039A CARD W SMD COMPONENTS

| REF. NO | NTP-ID.    | DESCRIPTION               | QTY | PARTS LIST                    |
|---------|------------|---------------------------|-----|-------------------------------|
| Q 201   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 202   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 203   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 204   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 205   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 206   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 207   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 208   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 209   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 210   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 211   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 301   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 302   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 305   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 306   | XQBP-0857B | TRANSISTOR PNP            | 1   | PHILIPS BC857B                |
| Q 309   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| Q 310   | XQBN-0847B | TRANSISTOR NPN            | 1   | PHILIPS BC847B                |
| R 2     | XRMD-5178C | RESISTOR METAL 17.8K 1%   | 1   | PHILIPS RC 02G RC 02G 17.8K1% |
| R 3     | XRMD-4150C | RESISTOR METAL 1.50K 1%   | 1   | PHILIPS RC02H RC02H 1K5 1%    |
| R 4     | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50 50 15.0K 0.1%  |
| R 5     | XRMA-5150A | RESISTOR METAL 15.0K 0.1% | 1   | BEYSCH 0204 50 50 15.0K 0.1%  |
| R 6     | XRMD-4100E | RESISTOR METAL 1K 5%      | 1   | PHILIPS RC01 RC01 1K 5%       |
| R 7     | XRMD-2100E | RESISTOR METAL 10R 5%     | 1   | PHILIPS RC01 RC01 10R 5%      |
| R 8     | XRMD-0000  | RESISTOR, NOT USED        | 1   | XRMD-0000 XRMD-0000           |
| R 101   | XRMD-3470C | RESISTOR METAL 470R 1%    | 1   | PHILIPS RC 02G RC 02G 470R1%  |
| R 102   | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H RC02H 392K 1%   |
| R 103   | XRMD-6392C | RESISTOR METAL 392K 1%    | 1   | PHILIPS RC02H RC02H 392K 1%   |
| R 104   | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01 RC01 200K 1%     |
| R 105   | XRMD-6200C | RESISTOR METAL 200K 1%    | 1   | PHILIPS RC01 RC01 200K 1%     |
| R 106   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G RC 02G 100K1%  |
| R 107   | XRMD-6100C | RESISTOR METAL 100K 1%    | 1   | PHILIPS RC 02G RC 02G 100K1%  |
| R 108   | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01 RC01 49.9K 1%    |
| R 109   | XRMD-5499C | RESISTOR METAL 49.9K 1%   | 1   | PHILIPS RC01 RC01 49.9K 1%    |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.     | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|---------|-------------|-------------------------|-----|------------------|----------------|
| R 110   | XRMD-5133C  | RESISTOR METAL 13.3K 1% | 1   | PHILIPS RC 02G   | RC 02G 13.3K1% |
| R 111   | XRMD-63330E | RESISTOR METAL 330K 5%  | 1   | PHILIPS RC01     | RC01 330K 5%   |
| R 112   | XRMD-5120E  | RESISTOR METAL 12K 5%   | 1   | PHILIPS RC01     | RC01 12K 5%    |
| R 113   | XRMD-4332C  | RESISTOR METAL 3.32K 1% | 1   | PHILIPS RC 02G   | RC 02G 3.32K1% |
| R 114   | XRMD-5133C  | RESISTOR METAL 13.3K 1% | 1   | PHILIPS RC 02G   | RC 02G 13.3K1% |
| R 115   | XRMD-5110C  | RESISTOR METAL 11.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 11.0K1% |
| R 116   | XRMD-5100C  | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 117   | XRMD-4560E  | RESISTOR METAL 5.6K 5%  | 1   | PHILIPS RC01     | RC01 5.6K 5%   |
| R 118   | XRMD-5100E  | RESISTOR METAL 10K 5%   | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 119   | XRMD-7100E  | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 120   | XRMD-4100E  | RESISTOR METAL 1K 5%    | 1   | PHILIPS RC01     | RC01 1K 5%     |
| R 121   | XRMD-7100E  | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 122   | XRMD-7330E  | RESISTOR METAL 3.3M 5%  | 1   | PHILIPS RC01     | RC01 3.3M 5%   |
| R 123   | XRMD-6221C  | RESISTOR METAL 221K 1%  | 1   | PHILIPS RC02H    | RC01 221K 1%   |
| R 124   | XRMD-5470E  | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01     | RC01 47K 5%    |
| R 125   | XRMD-5220E  | RESISTOR METAL 22K 5%   | 1   | PHILIPS RC01     | RC01 22K 5%    |
| R 126   | XRMD-4220E  | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |
| R 127   | XRMD-4220E  | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |
| R 128   | XRMD-5120E  | RESISTOR METAL 12K 5%   | 1   | PHILIPS RC01     | RC01 12K 5%    |
| R 129   | XRMD-6100C  | RESISTOR METAL 100K 1%  | 1   | PHILIPS RC 02G   | RC 02G 100K1%  |
| R 130   | XRMD-6330E  | RESISTOR METAL 330K 5%  | 1   | PHILIPS RC01     | RC01 330K 5%   |
| R 131   | XRMD-7150C  | RESISTOR METAL 1.50M 1% | 1   | PHILIPS RC02H    | RC01 1.50M 1%  |
| R 132   | XRMD-5100E  | RESISTOR METAL 10K 5%   | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 133   | XRMD-5100C  | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 134   | XRMD-5100C  | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 135   | XRMD-4200C  | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 136   | XRMD-4200C  | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 137   | XRMD-7100E  | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 138   | XRMD-7100E  | RESISTOR METAL 1M 5%    | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 139   | XRMD-5200C  | RESISTOR METAL 20.0K 1% | 1   | PHILIPS RC02H    | RC02 20.0K     |
| R 140   | XRMD-5200C  | RESISTOR METAL 20.0K 1% | 1   | PHILIPS RC02H    | RC02 20.0K     |
| R 141   | XRMD-0000   | RESISTOR, NOT USED      | 1   | XRMD-0000        | XRMD-0000      |
| R 142   | XRMD-6100E  | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF.NO | NTP-ID.    | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.       |
|--------|------------|------------------------------|-----|------------------|----------------|
| R 143  | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 144  | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 201  | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 202  | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 203  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 204  | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 205  | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILIPS RC 02G   | RC 02G 5.62K1% |
| R 206  | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILIPS RC 02G   | RC 02G 5.62K1% |
| R 207  | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 208  | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILIPS RC 02G   | RC 02G 2.21K1% |
| R 209  | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILIPS RC 02G   | RC 02G 2.21K1% |
| R 210  | XRMD-3332C | RESISTOR METAL 332R 1%       | 1   | PHILIPS RC 02G   | RC 02G 332R1%  |
| R 211  | XRMD-4100C | RESISTOR METAL 1206 1.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 1.00K1% |
| R 212  | XRMD-3150C | RESISTOR METAL 150R 1%       | 1   | PHILIPS RC 02G   | RC 02G 150R1%  |
| R 213  | XRMD-3365C | RESISTOR METAL 365R 1%       | 1   | PHILIPS RC02H    | RC02 365R 1%   |
| R 214  | XRMD-8100E | RESISTOR METAL 10M 5%        | 1   | PHILIPS RC01     | RC01 10M 5%    |
| R 215  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 216  | XRMD-5220E | RESISTOR METAL 22K 5%        | 1   | PHILIPS RC01     | RC01 22K 5%    |
| R 217  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 218  | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 219  | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 220  | XRMD-6680E | RESISTOR METAL 680K 5%       | 1   | PHILIPS RC01     | RC01 680K 5%   |
| R 221  | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 222  | XRMD-4330E | RESISTOR METAL 3.3K 5%       | 1   | PHILIPS RC01     | RC01 3.3K 5%   |
| R 223  | XRMD-5200C | RESISTOR METAL 20.0K 1%      | 1   | PHILIPS RC02H    | RC02 20.0K     |
| R 224  | XRMD-4845C | RESISTOR METAL 8.45K 1%      | 1   | PHILIPS RC02     | RC01 8.45K 1%  |
| R 225  | XRMD-5182C | RESISTOR METAL 1206 18K2 1%  | 1   | PHILIPS RC 02G   | RC 02G 18K2 1% |
| R 226  | XRMD-4470E | RESISTOR METAL 4.7K 5%       | 1   | PHILIPS RC01     | RC01 4.7K 5%   |
| R 227  | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 228  | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 229  | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 230  | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 231  | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|---------|------------|-------------------------|-----|------------------|----------------|
| R 232   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 233   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 234   | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01     | RC01 47K 5%    |
| R 235   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 236   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 237   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 238   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 239   | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILIPS RC01     | RC01 10R 5%    |
| R 240   | XRMD-6475C | RESISTOR METAL 475K 1%  | 1   | PHILIPS RC02H    | RC02 475K 1%   |
| R 301   | XRMD-3470E | RESISTOR METAL 470R 5%  | 1   | PHILIPS RC01     | RC01 470R 5%   |
| R 302   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 303   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 304   | XRMD-4825C | RESISTOR METAL 8.25K 1% | 1   | PHILIPS RC02     | RC01 8.25K 1%  |
| R 305   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 306   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 307   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 308   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01     | RC01 33K 5%    |
| R 309   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 310   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 311   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 312   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 313   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 314   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 315   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01     | RC01 3.9K 5%   |
| R 316   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01     | RC01 6.8R 5%   |
| R 317   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 318   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 2.00K1% |
| R 323   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |
| R 324   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01     | RC01 2.2K 5%   |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.       | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.      |
|----------|---------------|------------------------------|-----|------------------|---------------|
| 100      | 179-5040A     | PRINT BOARD                  | 1   | CAD              | 179-5040A     |
| C 103    | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62     |
| C 104    | X CDDL-0522FB | CAP CERAMIC 22NF 10%         | 1   | SIEMENS B37872   | K5223-K62     |
| C 105    | XCCD-0610GC   | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62     |
| C 201    | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX           | 2222-15279    |
| C 202    | X CCD-0227G   | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX           | 2222-15279    |
| C 208    | X CCD-0315E   | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PC106P 150P5% |
| C 210    | X CCD-0222F   | CAP CERAMIC 63V 22PF 5%      | 1   | SIEMENS B37871   | K5220-J62     |
| C 211    | X CCD-0315E   | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN      | PC106P 150P5% |
| C 303    | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62     |
| C 304    | X CCD-0310G   | CAP CERAMIC 50V 1206 100PF 2 | 1   | SIEMENS B37871   | J5101-M9      |
| C 305    | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9      |
| C 306    | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9      |
| C 307    | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9      |
| C 308    | X CCC-0447GD  | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701   | J5472 M9      |
| C 320    | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62     |
| C 321    | X CCD-0610GC  | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873   | K5104 M62     |
| D 1      | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115    |
| D 2      | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115    |
| D 3      | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115    |
| D 4      | X QDS-0017F   | DIODE, HIGH CURRENT          | 1   | PHILLIPS         | BYD17D-115    |
| D 5      | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21        |
| D 101    | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21        |
| D 102    | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163   |
| D 104    | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163   |
| D 105    | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163   |
| D 106    | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21        |
| D 107    | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163   |
| D 108    | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21        |
| D 109    | X QDS-0028T   | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28    | Q62702 A163   |
| D 111    | X QDS-0021B   | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS         | BAS 21        |
| D 112    | X QZ2-0023    | NOT MOUNTED TRANSIENT DIODE  | 1   | XQZ2-0023        | XQZ2-0023     |
| D 201    | X QTZ-0027B   |                              | 1   | MICROSEMI        | SMSJ24A       |

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## CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION                | QTY | MANUFACT/DRW.NO. | PART NO.   |
|---------|------------|----------------------------|-----|------------------|------------|
| D 202   | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 203   | XQDS-0021B | DIODE, GENERAL PURPOSE     | 1   | PHILIPS          | BAS 21     |
| D 204   | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 205   | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 207   | XQZD-0047B | ZENER DIODE 4V7            | 1   | PHILIPS          | BZX84C4V7  |
| D 208   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 209   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 210   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 301   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 302   | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 305   | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| D 306   | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| IC 2    | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 101  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 102  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 103  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 201  | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 202  | XILA-0275A | DUAL OPERATIONAL AMPLIFIER | 1   | ANALOG DEV       | OP 275GS   |
| IC 203  | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 204  | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 302  | XICA-4047A | MONO/ASTABLE MULTIVIBRATOR | 1   | PHILIPS          | HEF4047BT  |
| P 1     | XRFB-4200G | POTENTIOMETER 2K 20%       | 1   | TOCOS            | G4 A 202 M |
| P 2     | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS            | G4 A 203 M |
| P 201   | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS            | G4 A 203 M |
| P 301   | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS            | G4 A 102 M |
| P 302   | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS            | G4 A 102 M |
| Q 101   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 102   | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |
| Q 103   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 104   | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |
| Q 105   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 106   | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILIPS          | BC847B     |
| Q 107   | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILIPS          | BC857B     |

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## NTP 179-5039A , CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.     | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.  |
|---------|-------------|-------------------------|-----|------------------|-----------|
| Q 201   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 202   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 203   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 204   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 205   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 206   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 207   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 208   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 209   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 210   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 211   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 301   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 302   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 305   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 306   | XQBP-0857B  | TRANSISTOR PNP          | 1   | PHILLIPS         | BC857B    |
| Q 309   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| Q 310   | XQBN-0847B  | TRANSISTOR NPN          | 1   | PHILLIPS         | BC847B    |
| R 2     | XRMD-5178C  | RESISTOR METAL 17.8K 1% | 1   | PHILLIPS         | RC 02G    |
| R 3     | XRMD-4150C  | RESISTOR METAL 1.50K 1% | 1   | PHILLIPS         | RC02H     |
| R 4     | XRMD-51100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS         | RC 02G    |
| R 5     | XRMD-5100C  | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS         | RC 02G    |
| R 6     | XRMD-4100E  | RESISTOR METAL 1K 5%    | 1   | PHILLIPS         | RC01      |
| R 7     | XRMD-2100E  | RESISTOR METAL 10R 5%   | 1   | PHILLIPS         | RC01      |
| R 8     | XRMD-0000   | RESISTOR, NOT USED      | 1   | XRMD-0000        | XRMD-0000 |
| R 101   | XRMD-3470C  | RESISTOR METAL 470R 1%  | 1   | PHILLIPS         | RC 02G    |
| R 102   | XRMD-6392C  | RESISTOR METAL 392K 1%  | 1   | PHILLIPS         | RC02H     |
| R 103   | XRMD-6392C  | RESISTOR METAL 392K 1%  | 1   | PHILLIPS         | RC02H     |
| R 104   | XRMD-6200C  | RESISTOR METAL 200K 1%  | 1   | PHILLIPS         | RC01      |
| R 105   | XRMD-6200C  | RESISTOR METAL 200K 1%  | 1   | PHILLIPS         | RC01      |
| R 106   | XRMD-6100C  | RESISTOR METAL 100K 1%  | 1   | PHILLIPS         | RC 02G    |
| R 107   | XRMD-6100C  | RESISTOR METAL 100K 1%  | 1   | PHILLIPS         | RC 02G    |
| R 108   | XRMD-5499C  | RESISTOR METAL 49.9K 1% | 1   | PHILLIPS         | RC01      |
| R 109   | XRMD-5499C  | RESISTOR METAL 49.9K 1% | 1   | PHILLIPS         | RC01      |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|------------|-------------------------|-----|------------------|----------------|
| R 110    | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILLIPS RC 02G  | RC 02G 13.3K1% |
| R 111    | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILLIPS RC01    | RC01 330K 5%   |
| R 112    | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILLIPS RC01    | RC01 12K 5%    |
| R 113    | XRMD-4332C | RESISTOR METAL 3.32K 1% | 1   | PHILLIPS RC 02G  | RC 02G 3.32K1% |
| R 114    | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILLIPS RC 02G  | RC 02G 13.3K1% |
| R 115    | XRMD-5110C | RESISTOR METAL 11.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 11.0K1% |
| R 116    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 117    | XRMD-4560E | RESISTOR METAL 5.6K 5%  | 1   | PHILLIPS RC01    | RC01 5.6K 5%   |
| R 118    | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 119    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 120    | XRMD-4100E | RESISTOR METAL 1K 5%    | 1   | PHILLIPS RC01    | RC01 1K 5%     |
| R 121    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 122    | XRMD-7330E | RESISTOR METAL 3.3M 5%  | 1   | PHILLIPS RC01    | RC01 3.3M 5%   |
| R 123    | XRMD-6221C | RESISTOR METAL 221K 1%  | 1   | PHILLIPS RC02H   | RC01 221K 1%   |
| R 124    | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILLIPS RC01    | RC01 47K 5%    |
| R 125    | XRMD-5220E | RESISTOR METAL 22K 5%   | 1   | PHILLIPS RC01    | RC01 22K 5%    |
| R 126    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILLIPS RC01    | RC01 2.2K 5%   |
| R 127    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILLIPS RC01    | RC01 2.2K 5%   |
| R 128    | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILLIPS RC01    | RC01 12K 5%    |
| R 129    | XRMD-6100C | RESISTOR METAL 100K 1%  | 1   | PHILLIPS RC 02G  | RC 02G 100K1%  |
| R 130    | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILLIPS RC01    | RC01 330K 5%   |
| R 131    | XRMD-7150C | RESISTOR METAL 1.50M 1% | 1   | PHILLIPS RC02H   | RC01 1.50M 1%  |
| R 132    | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 133    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 134    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 135    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 136    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 137    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 138    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 139    | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILLIPS RC02H   | RC02 20.0K     |
| R 140    | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILLIPS RC02H   | RC02 20.0K     |
| R 141    | XRMD-0000  | RESISTOR, NOT USED      | 1   | XRMD-0000        | XRMD-0000      |
| R 142    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILLIPS RC01    | RC01 100K 5%   |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.        |
|---------|------------|------------------------------|-----|------------------|-----------------|
| R 143   | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%    |
| R 144   | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%    |
| R 201   | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%    |
| R 202   | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%    |
| R 203   | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%    |
| R 204   | XRMD-5100C | RESISTOR METAL 10 .0K 1%     | 1   | PHILIPS RC 02G   | RC 02G 10 .0K1% |
| R 205   | XRMD-4562C | RESISTOR METAL 5 .62K 1%     | 1   | PHILIPS RC 02G   | RC 02G 5 .62K1% |
| R 206   | XRMD-4562C | RESISTOR METAL 5 .62K 1%     | 1   | PHILIPS RC 02G   | RC 02G 5 .62K1% |
| R 207   | XRMD-5100C | RESISTOR METAL 10 .0K 1%     | 1   | PHILIPS RC 02G   | RC 02G 10 .0K1% |
| R 208   | XRMD-4221C | RESISTOR METAL 2 .21K 1%     | 1   | PHILIPS RC 02G   | RC 02G 2 .21K1% |
| R 209   | XRMD-4221C | RESISTOR METAL 2 .21K 1%     | 1   | PHILIPS RC 02G   | RC 02G 2 .21K1% |
| R 210   | XRMD-3332C | RESISTOR METAL 332R 1%       | 1   | PHILIPS RC 02G   | RC 02G 332R1%   |
| R 211   | XRMD-4100C | RESISTOR METAL 1206 1.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 1.00K1%  |
| R 212   | XRMD-3680E | RESISTOR METAL 680R 5%       | 1   | PHILIPS RC01     | RC01 680R 5%    |
| R 213   | XRMD-4470E | RESISTOR METAL 4 .7K 5%      | 1   | PHILIPS RC01     | RC01 4 .7K 5%   |
| R 214   | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01     | RC01 1M 5%      |
| R 215   | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%     |
| R 216   | XRMD-5220E | RESISTOR METAL 22K 5%        | 1   | PHILIPS RC01     | RC01 22K 5%     |
| R 217   | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%     |
| R 218   | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%     |
| R 219   | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01     | RC01 1M 5%      |
| R 220   | XRMD-6680E | RESISTOR METAL 680K 5%       | 1   | PHILIPS RC01     | RC01 680K 5%    |
| R 221   | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%    |
| R 222   | XRMD-4330E | RESISTOR METAL 3 .3K 5%      | 1   | PHILIPS RC01     | RC01 3 .3K 5%   |
| R 223   | XRMD-5200C | RESISTOR METAL 20 .0K 1%     | 1   | PHILIPS RC02H    | RC02 20 .0K     |
| R 224   | XRMD-4845C | RESISTOR METAL 8 .45K 1%     | 1   | PHILIPS RC02     | RC01 8 .45K 1%  |
| R 225   | XRMD-5182C | RESISTOR METAL 1206 18K2 1%  | 1   | PHILIPS RC 02G   | RC 02G 18K2 1%  |
| R 226   | XRMD-4470E | RESISTOR METAL 4 .7K 5%      | 1   | PHILIPS RC01     | RC01 4 .7K 5%   |
| R 227   | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G   | RC 02G 4 .99K1% |
| R 228   | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G   | RC 02G 4 .99K1% |
| R 229   | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G   | RC 02G 4 .99K1% |
| R 230   | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G   | RC 02G 4 .99K1% |
| R 231   | XRMD-4499C | RESISTOR METAL 4 .99K 1%     | 1   | PHILIPS RC 02G   | RC 02G 4 .99K1% |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|---------|------------|-------------------------|-----|------------------|----------------|
| R 232   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 233   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 234   | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILLIPS RC01    | RC01 47K 5%    |
| R 235   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILLIPS RC01    | RC01 100K 5%   |
| R 236   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILLIPS RC01    | RC01 100K 5%   |
| R 237   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 238   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 239   | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILLIPS RC01    | RC01 10R 5%    |
| R 301   | XRMD-3470E | RESISTOR METAL 470R 5%  | 1   | PHILLIPS RC01    | RC01 470R 5%   |
| R 302   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 303   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 304   | XRMD-4825C | RESISTOR METAL 8.25K 1% | 1   | PHILLIPS RC02    | RC01 8.25K 1%  |
| R 305   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILLIPS RC01    | RC01 33K 5%    |
| R 306   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILLIPS RC01    | RC01 33K 5%    |
| R 307   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILLIPS RC01    | RC01 33K 5%    |
| R 308   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILLIPS RC01    | RC01 33K 5%    |
| R 309   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILLIPS RC01    | RC01 6.8R 5%   |
| R 310   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILLIPS RC01    | RC01 3.9K 5%   |
| R 311   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILLIPS RC01    | RC01 3.9K 5%   |
| R 312   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILLIPS RC01    | RC01 6.8R 5%   |
| R 313   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILLIPS RC01    | RC01 6.8R 5%   |
| R 314   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILLIPS RC01    | RC01 3.9K 5%   |
| R 315   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILLIPS RC01    | RC01 3.9K 5%   |
| R 316   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILLIPS RC01    | RC01 6.8R 5%   |
| R 317   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 318   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 323   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILLIPS RC01    | RC01 2.2K 5%   |
| R 324   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILLIPS RC01    | RC01 2.2K 5%   |

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## NTP 179-5039A CARD W SMD COMPONENTS

| REF. NO. | NTP-ID.     | DESCRIPTION                  | QTY | PARTS LIST        | PARTS LIST     | PARTS LIST     |
|----------|-------------|------------------------------|-----|-------------------|----------------|----------------|
| 100      | 179-5040A   | PRINT BOARD                  | 1   | CAD               | 179-5040A      | 179-5040A      |
| C 103    | XCCD-0610GC | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873    | K5104 M62      | K5104 M62      |
| C 104    | XCDD-0522FB | CAP CERAMIC 22NF 10%         | 1   | SIEMENS B37872    | K5223-K62      | K5223-K62      |
| C 105    | XCCD-0610GC | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873    | K5104 M62      | K5104 M62      |
| C 201    | XCCD-0227G  | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX            | 2222-15279     | 2222-15279     |
| C 202    | XCCD-0227G  | COND. CERAMIC 50V 27PF 20% N | 1   | PROMAX            | 2222-15279     | 2222-15279     |
| C 208    | XCCD-0315E  | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN       | PCC106P 150P5% | PCC106P 150P5% |
| C 210    | XCCD-0222F  | CAP CERAMIC 63V 22PF 5%      | 1   | SIEMENS B37871    | K5220-J62      | K5220-J62      |
| C 211    | XCCD-0315E  | CAP CERAMIC 63V 150PF 5%     | 1   | ROEDERSTEIN       | PCC106P 150P5% | PCC106P 150P5% |
| C 303    | XCCD-0610GC | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873    | K5104 M62      | K5104 M62      |
| C 304    | XCCD-0310G  | CAP CERAMIC 50V 1206 100PF 2 | 1   | SIEMENS B37871    | J5101-M9       | J5101-M9       |
| C 305    | XCCC-0447GD | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701    | J5472 M9       | J5472 M9       |
| C 306    | XCCC-0447GD | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701    | J5472 M9       | J5472 M9       |
| C 307    | XCCC-0447GD | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701    | J5472 M9       | J5472 M9       |
| C 308    | XCCC-0447GD | CAP CERAMIC 50V 4.7NF 20%    | 1   | SIEMENS B37701    | J5472 M9       | J5472 M9       |
| C 320    | XCCD-0610GC | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873    | K5104 M62      | K5104 M62      |
| C 321    | XCCD-0610GC | CAP CERAMIC 50V 100NF 20%    | 1   | SIEMENS B37873    | K5104 M62      | K5104 M62      |
| D 1      | XQDS-0017F  | DIODE, HIGH CURRENT          | 1   | PHILLIPS          | BYD17D-115     | BYD17D-115     |
| D 2      | XQDS-0017F  | DIODE, HIGH CURRENT          | 1   | PHILLIPS          | BYD17D-115     | BYD17D-115     |
| D 3      | XQDS-0017F  | DIODE, HIGH CURRENT          | 1   | PHILLIPS          | BYD17D-115     | BYD17D-115     |
| D 4      | XQDS-0017F  | DIODE, HIGH CURRENT          | 1   | PHILLIPS          | BYD17D-115     | BYD17D-115     |
| D 5      | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS          | BAS 21         | BAS 21         |
| D 101    | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS          | BAS 21         | BAS 21         |
| D 102    | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28     | Q622702 A163   | Q622702 A163   |
| D 104    | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28     | Q622702 A163   | Q622702 A163   |
| D 105    | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28     | Q622702 A163   | Q622702 A163   |
| D 106    | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS          | BAS 21         | BAS 21         |
| D 107    | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28     | Q622702 A163   | Q622702 A163   |
| D 108    | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS          | BAS 21         | BAS 21         |
| D 109    | XQDS-0028T  | SI-SWITCHING DIODE ARRAY     | 1   | SIEMENS BAS28     | Q622702 A163   | Q622702 A163   |
| D 111    | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS          | BAS 21         | BAS 21         |
| D 112    | XQDS-0021B  | DIODE, GENERAL PURPOSE       | 1   | PHILLIPS          | BAS 21         | BAS 21         |
| D 201    | XQTZ-0027B  | TRANSIENT DIODE              | 1   | MICROSEMI SMSJ24A |                |                |

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PARTS LIST 179-5039A

Side 2

## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION                | QTY | MANUFACT/DRW.NO. | PART NO.   |
|----------|------------|----------------------------|-----|------------------|------------|
| D 202    | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 203    | XQDS-0021B | DIODE, GENERAL PURPOSE     | 1   | PHILLIPS         | BAS 21     |
| D 204    | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 205    | XQDS-0099B | DIODE, DUAL                | 1   | SIEMENS          | BAV99      |
| D 207    | XQZD-0047B | ZENER DIODE 4V7            | 1   | PHILLIPS         | BZX84C4V7  |
| D 208    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 209    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 210    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 301    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 302    | XQDS-0028T | SI-SWITCHING DIODE ARRAY   | 1   | SIEMENS          | BAS28      |
| D 305    | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| D 306    | XQTZ-0027B | TRANSIENT DIODE            | 1   | MICROSEMI        | SMSJ24A    |
| IC 2     | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 101   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 102   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 103   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 201   | XILA-0072A | OPERATIONAL AMPLIFIER      | 1   | TEXAS            | TL072CD    |
| IC 202   | XILA-0275A | DUAL OPERATIONAL AMPLIFIER | 1   | ANALOG DEV       | OP 275GS   |
| IC 203   | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 204   | XICA-4S66A | ANALOG SWITCH X1           | 1   | TOSHIBA          | TC4S66F    |
| IC 302   | XICA-4047A | MONO/ASTABLE MULTIVIBRATOR | 1   | PHILLIPS HEF     | HEF4047BT  |
| P 1      | XRFB-4200G | POTENTIOMETER 2K 20%       | 1   | TOCOS            | G4 A 202 M |
| P 2      | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS            | G4 A 203 M |
| P 201    | XRFB-5200G | POTENTIOMETER 20K 20%      | 1   | TOCOS            | G4 A 203 M |
| P 301    | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS            | G4 A 102 M |
| P 302    | XRFB-4100G | POTENTIOMETER 1 K 20%      | 1   | TOCOS            | G4 A 102 M |
| Q 101    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILLIPS         | BC847B     |
| Q 102    | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILLIPS         | BC857B     |
| Q 103    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILLIPS         | BC847B     |
| Q 104    | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILLIPS         | BC857B     |
| Q 105    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILLIPS         | BC847B     |
| Q 106    | XQBN-0847B | TRANSISTOR NPN             | 1   | PHILLIPS         | BC847B     |
| Q 107    | XQBP-0857B | TRANSISTOR PNP             | 1   | PHILLIPS         | BC857B     |

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NTP 179-5039A PARTS LIST 179-5039A

Side 3

## NTP CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO. |
|----------|------------|-------------------------|-----|------------------|----------|
| Q 201    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 202    | XQBP-0857B | TRANSISTOR PNP          | 1   | PHILIPS          | BC857B   |
| Q 203    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 204    | XQBP-0857B | TRANSISTOR PNP          | 1   | PHILIPS          | BC857B   |
| Q 205    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 206    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 207    | XQBP-0857B | TRANSISTOR PNP          | 1   | PHILIPS          | BC857B   |
| Q 208    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 209    | XQBP-0857B | TRANSISTOR PNP          | 1   | PHILIPS          | BC857B   |
| Q 210    | XQBP-0857B | TRANSISTOR FNP          | 1   | PHILIPS          | BC857B   |
| Q 211    | XQBP-0857B | TRANSISTOR FNP          | 1   | PHILIPS          | BC857B   |
| Q 301    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 302    | XQBP-0857B | TRANSISTOR FNP          | 1   | PHILIPS          | BC857B   |
| Q 305    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 306    | XQBP-0857B | TRANSISTOR FNP          | 1   | PHILIPS          | BC857B   |
| Q 309    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| Q 310    | XQBN-0847B | TRANSISTOR NPN          | 1   | PHILIPS          | BC847B   |
| R 2      | XRMD-5178C | RESISTOR METAL 17.8K 1% | 1   | PHILIPS          | RC 02G   |
| R 3      | XRMD-4150C | RESISTOR METAL 1.50K 1% | 1   | PHILIPS          | RC02H    |
| R 4      | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS          | RC 02G   |
| R 5      | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS          | RC 02G   |
| R 6      | XRMD-4100E | RESISTOR METAL 1K 5%    | 1   | PHILIPS          | RC01     |
| R 7      | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILIPS          | RC01     |
| R 8      | XRMD-4100E | RESISTOR METAL 1K 5%    | 1   | PHILIPS          | RC01     |
| R 101    | XRMD-3470C | RESISTOR METAL 470R 1%  | 1   | PHILIPS          | RC 02G   |
| R 102    | XRMD-6392C | RESISTOR METAL 392K 1%  | 1   | PHILIPS          | RC02H    |
| R 103    | XRMD-6392C | RESISTOR METAL 392K 1%  | 1   | PHILIPS          | RC02H    |
| R 104    | XRMD-6200C | RESISTOR METAL 200K 1%  | 1   | PHILIPS          | RC01     |
| R 105    | XRMD-6200C | RESISTOR METAL 200K 1%  | 1   | PHILIPS          | RC01     |
| R 106    | XRMD-6100C | RESISTOR METAL 100K 1%  | 1   | PHILIPS          | RC 02G   |
| R 107    | XRMD-6100C | RESISTOR METAL 100K 1%  | 1   | PHILIPS          | RC 02G   |
| R 108    | XRMD-5499C | RESISTOR METAL 49.9K 1% | 1   | PHILIPS          | RC01     |
| R 109    | XRMD-5499C | RESISTOR METAL 49.9K 1% | 1   | PHILIPS          | RC01     |

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Side 4

NTP 179-5039A CARD W SMD COMPONENTS

PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION             | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|------------|-------------------------|-----|------------------|----------------|
| R 110    | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILLIPS RC 02G  | RC 02G 13.3K1% |
| R 111    | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILLIPS RC01    | RC01 330K 5%   |
| R 112    | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILLIPS RC01    | RC01 12K 5%    |
| R 113    | XRMD-4332C | RESISTOR METAL 3.32K 1% | 1   | PHILLIPS RC 02G  | RC 02G 3.32K1% |
| R 114    | XRMD-5133C | RESISTOR METAL 13.3K 1% | 1   | PHILLIPS RC 02G  | RC 02G 13.3K1% |
| R 115    | XRMD-5110C | RESISTOR METAL 11.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 11.0K1% |
| R 116    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 117    | XRMD-4560E | RESISTOR METAL 5.6K 5%  | 1   | PHILLIPS RC01    | RC01 5.6K 5%   |
| R 118    | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 119    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 120    | XRMD-4100E | RESISTOR METAL 1K 5%    | 1   | PHILLIPS RC01    | RC01 1K 5%     |
| R 121    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 122    | XRMD-7330E | RESISTOR METAL 3.3M 5%  | 1   | PHILLIPS RC01    | RC01 3.3M 5%   |
| R 123    | XRMD-6221C | RESISTOR METAL 221K 1%  | 1   | PHILLIPS RC02H   | RC01 221K 1%   |
| R 124    | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILLIPS RC01    | RC01 47K 5%    |
| R 125    | XRMD-5220E | RESISTOR METAL 22K 5%   | 1   | PHILLIPS RC01    | RC01 22K 5%    |
| R 126    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILLIPS RC01    | RC01 2.2K 5%   |
| R 127    | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILLIPS RC01    | RC01 2.2K 5%   |
| R 128    | XRMD-5120E | RESISTOR METAL 12K 5%   | 1   | PHILLIPS RC01    | RC01 12K 5%    |
| R 129    | XRMD-6100C | RESISTOR METAL 100K 1%  | 1   | PHILLIPS RC 02G  | RC 02G 100K1%  |
| R 130    | XRMD-6330E | RESISTOR METAL 330K 5%  | 1   | PHILLIPS RC01    | RC01 330K 5%   |
| R 131    | XRMD-7150C | RESISTOR METAL 1.50M 1% | 1   | PHILLIPS RC02H   | RC01 1.50M 1%  |
| R 132    | XRMD-5100E | RESISTOR METAL 10K 5%   | 1   | PHILLIPS RC01    | RC01 10K 5%    |
| R 133    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 134    | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILLIPS RC 02G  | RC 02G 10.0K1% |
| R 135    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 136    | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILLIPS RC 02G  | RC 02G 2.00K1% |
| R 137    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 138    | XRMD-7100E | RESISTOR METAL 1M 5%    | 1   | PHILLIPS RC01    | RC01 1M 5%     |
| R 139    | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILLIPS RC02H   | RC02 20.0K     |
| R 140    | XRMD-5200C | RESISTOR METAL 20.0K 1% | 1   | PHILLIPS RC02H   | RC02 20.0K     |
| R 141    | XRMD-0000  | RESISTOR, NOT USED      | 1   | XRMD-0000        | XRMD-0000      |
| R 142    | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILLIPS RC01    | RC01 100K 5%   |

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## NTP 179-5039A CARD W SMD COMPONENTS

## PARTS LIST

| REF. NO. | NTP-ID.    | DESCRIPTION                  | QTY | MANUFACT/DRW.NO. | PART NO.       |
|----------|------------|------------------------------|-----|------------------|----------------|
| R 143    | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 144    | XRMD-6200C | RESISTOR METAL 200K 1%       | 1   | PHILIPS RC01     | RC01 200K 1%   |
| R 201    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 202    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 203    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 204    | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 205    | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILIPS RC 02G   | RC 02G 5.62K1% |
| R 206    | XRMD-4562C | RESISTOR METAL 5.62K 1%      | 1   | PHILIPS RC 02G   | RC 02G 5.62K1% |
| R 207    | XRMD-5100C | RESISTOR METAL 10.0K 1%      | 1   | PHILIPS RC 02G   | RC 02G 10.0K1% |
| R 208    | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILIPS RC 02G   | RC 02G 2.21K1% |
| R 209    | XRMD-4221C | RESISTOR METAL 2.21K 1%      | 1   | PHILIPS RC 02G   | RC 02G 2.21K1% |
| R 210    | XRMD-3332C | RESISTOR METAL 3.32R 1%      | 1   | PHILIPS RC 02G   | RC 02G 3.32R1% |
| R 211    | XRMD-4100C | RESISTOR METAL 1206 1.00K 1% | 1   | PHILIPS RC 02G   | RC 02G 1.00K1% |
| R 212    | XRMD-3680E | RESISTOR METAL 680R 5%       | 1   | PHILIPS RC01     | RC01 680R 5%   |
| R 213    | XRMD-4470E | RESISTOR METAL 4.7K 5%       | 1   | PHILIPS RC01     | RC01 4.7K 5%   |
| R 214    | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 215    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 216    | XRMD-5220E | RESISTOR METAL 22K 5%        | 1   | PHILIPS RC01     | RC01 22K 5%    |
| R 217    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 218    | XRMD-5100E | RESISTOR METAL 10K 5%        | 1   | PHILIPS RC01     | RC01 10K 5%    |
| R 219    | XRMD-7100E | RESISTOR METAL 1M 5%         | 1   | PHILIPS RC01     | RC01 1M 5%     |
| R 220    | XRMD-6680E | RESISTOR METAL 680K 5%       | 1   | PHILIPS RC01     | RC01 680K 5%   |
| R 221    | XRMD-6100E | RESISTOR METAL 100K 5%       | 1   | PHILIPS RC01     | RC01 100K 5%   |
| R 222    | XRMD-4330E | RESISTOR METAL 3.3K 5%       | 1   | PHILIPS RC01     | RC01 3.3K 5%   |
| R 223    | XRMD-5200C | RESISTOR METAL 20.0K 1%      | 1   | PHILIPS RC02H    | RC02 20.0K     |
| R 224    | XRMD-4845C | RESISTOR METAL 8.45K 1%      | 1   | PHILIPS RC02     | RC01 8.45K 1%  |
| R 225    | XRMD-5182C | RESISTOR METAL 1206 18K2 1%  | 1   | PHILIPS RC 02G   | RC 02G 18K2 1% |
| R 226    | XRMD-4470E | RESISTOR METAL 4.7K 5%       | 1   | PHILIPS RC01     | RC01 4.7K 5%   |
| R 227    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 228    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 229    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 230    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |
| R 231    | XRMD-4499C | RESISTOR METAL 4.99K 1%      | 1   | PHILIPS RC 02G   | RC 02G 4.99K1% |

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Side 6

NTP 179-5039A CARD W SMD COMPONENTS

| REF.NO. | NTP-ID.    | DESCRIPTION             | QTY | PARTS LIST     | 179-5039A      | PARTS LIST |
|---------|------------|-------------------------|-----|----------------|----------------|------------|
|         |            |                         |     |                |                |            |
| R 232   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G | RC 02G 10.0K1% |            |
| R 233   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G | RC 02G 10.0K1% |            |
| R 234   | XRMD-5470E | RESISTOR METAL 47K 5%   | 1   | PHILIPS RC01   | RC01 47K 5%    |            |
| R 235   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01   | RC01 100K 5%   |            |
| R 236   | XRMD-6100E | RESISTOR METAL 100K 5%  | 1   | PHILIPS RC01   | RC01 100K 5%   |            |
| R 237   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |            |
| R 238   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |            |
| R 239   | XRMD-2100E | RESISTOR METAL 10R 5%   | 1   | PHILIPS RC01   | RC01 10R 5%    |            |
| R 301   | XRMD-3470E | RESISTOR METAL 470R 5%  | 1   | PHILIPS RC01   | RC01 470R 5%   |            |
| R 302   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |            |
| R 303   | XRMD-5100C | RESISTOR METAL 10.0K 1% | 1   | PHILIPS RC 02G | RC 02G 10.0K1% |            |
| R 304   | XRMD-4825C | RESISTOR METAL 8.25K 1% | 1   | PHILIPS RC02   | RC01 8.25K 1%  |            |
| R 305   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |            |
| R 306   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |            |
| R 307   | XRMD-5330E | RESISTOR METAL 33K 5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |            |
| R 308   | XRMD-5330E | RESISTOR METAL 33K.5%   | 1   | PHILIPS RC01   | RC01 33K 5%    |            |
| R 309   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |            |
| R 310   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |            |
| R 311   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |            |
| R 312   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |            |
| R 313   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |            |
| R 314   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |            |
| R 315   | XRMD-4390E | RESISTOR METAL 3.9K 5%  | 1   | PHILIPS RC01   | RC01 3.9K 5%   |            |
| R 316   | XRMD-1680E | RESISTOR METAL 6.8R 5%  | 1   | PHILIPS RC01   | RC01 6.8R 5%   |            |
| R 317   | XRMD-4200C | RESISTOR METAL 2.00K 1% | 1   | PHILIPS RC 02G | RC 02G 2.00K1% |            |
| R 318   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   | RC01 2.2K 5%   |            |
| R 323   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   | RC01 2.2K 5%   |            |
| R 324   | XRMD-4220E | RESISTOR METAL 2.2K 5%  | 1   | PHILIPS RC01   | RC01 2.2K 5%   |            |

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