



DESCRIPTION

The 1" x 0.1" grid relay series is a general purpose series that is pin-for-pin compatible with most competitor relays. Some configurations of this relay series are capable of switching up to 1000 V and up to a maximum of 50 Watts. The series includes Form-A, Form-B and Form-C models, some of which have up to 6 poles.

FEATURES

- Standard nominal voltages include 5, 12 and 24 volts
- Electromagnetic shield
- Multi-pole configurations
- 1.0" x 0.15" pin spacing available
- FCC Part 68 compatible

APPLICATIONS

- Telecom
- Instrumentation
- General purpose electronics
- Industrial
- Process control

APPROVALS

- UL Recognized (MRB)

RATINGS (@ 25° C)

| Parameter | Min | Typ | Max | Unit |
|---------------------|-----|-----|------|-------|
| Switching Voltage | | | | |
| MRB | | | 200 | Volts |
| 922A | | | 125 | Volts |
| Switching Current | | | | |
| MRB | | | 0.50 | Amps |
| 922A | | | 0.25 | Amps |
| Carry Current | | | | |
| MRB | | | 1.5 | Amps |
| 922A | | | 0.4 | Amps |
| Switching Frequency | | | | |
| MRB/922A | | | 500 | Hz |
| Contact Resistance | | | | |
| MRB/922A | | | 200 | mΩ |

(See detailed specifications for more information.)

1" x 0.1" GRID RELAYS



MRB ■ 922A

SPECIFICATIONS

All parameters are at 25°C unless otherwise stated.
Operate voltage, release voltage, and coil resistance will
change approximately 0.4%/°C as ambient temperature varies.

MRB

922A

| PARAMETER | CONDITIONS | SYMBOL | MIN | TYP | MAX | MIN | TYP | MAX | UNITS |
|------------------------------------|--|------------------|------------------|------|------|-----------------|-----|------|--|
| Contact Ratings | | | | | | | | | |
| Switching Voltage | Max DC/PeakAC Resistive | V _L | - | - | 200 | - | - | 125 | Volts |
| Switching Current | Max DC/PeakAC Resistive | I _L | - | - | 0.5 | - | - | 0.25 | Amps |
| Carry Current | Max DC/PeakAC Resistive | I _c | - | - | 1.5 | - | - | 0.4 | Amps |
| Contact Rating | Max DC/PeakAC Resistive | - | - | - | 10 | - | - | 3 | Watts |
| Life Expectancy | Signal Level 1.0V 10mA Rated Loads ⁽¹⁾ | - | 300 | 500 | - | - | 100 | - | x10 ⁶ Ops x10 ⁶ Ops |
| Static Contact Resistance | 50mV, 10mA | CR | - | - | 200 | - | - | 200 | mΩ |
| Dynamic Contact Resistance | .5V, 50mA at 100Hz, 1.5 msec | DCR | - | - | 200 | - | - | 200 | mΩ |
| Contact Material | | - | - | Rh | - | - | Ru | - | - |
| Hg Content | | - | - | N/A | - | - | N/A | - | mgms |
| Relay Specifications | | | | | | | | | |
| Insulation Resistance | Between all isolated pins at 100V, 25°C, 40% RH | IR | 10 ¹⁰ | - | - | 10 ⁸ | - | - | Ω |
| Capacitance | | - | - | - | 1 | - | - | - | pF |
| Across Open Contacts | | - | - | - | 2 | - | - | - | pF |
| Open Contact to Coil | | - | - | - | - | - | - | - | - |
| Dielectric Strength | Between Contacts Contacts to Coil | I/O | 250 1400 | - | - | - | - | - | VDC/PeakAC VDC/PeakAC |
| Operate Time including bounce | At Nominal Coil Voltage 10Hz Square Wave | T _{OP} | - | 1 | 2 | - | 1.5 | - | ms |
| Release Time | Zener-Diode Suppression | T _{REL} | - | 0.50 | 2 | - | 2 | - | ms |
| Environmental Ratings | | | | | | | | | |
| Storage Temperature | | T _A | -40 | - | +105 | -40 | - | +105 | °C |
| Operating Temperature | | T _O | -20 | - | +85 | -38 | - | +85 | °C |
| Soldering Temperature | Applied to pins, 5 sec. max. | - | - | - | +260 | - | - | +260 | °C |
| Vibration Resistance (Survival) | 10Hz - 500Hz | G | - | - | 10 | - | - | 10 | Gs |
| Shock Resistance (Survival) | 11±1ms, 1/2 Sine Wave | S | - | - | 20 | - | - | 30 | Gs |
| Weight | | - | - | 5.8 | - | - | - | 5.1 | grams |

⁽¹⁾ For further information, consult factory

COIL SPECIFICATIONS

| | Coil Voltage | | | Coil Resistance | | | Operate Voltage | | | Release Voltage | | | Nominal Input Power | | |
|------------|--------------|-----|-----|-----------------|------|------|------------------------|-----|------|------------------------|-----|-----|---------------------|-----|-----|
| Units | Volts | | | Ω | | | Volts | | | Volts | | | mW | | |
| Conditions | | | | ±10% (25°C) | | | Must operate by (25°C) | | | Must release by (25°C) | | | | | |
| Part # | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max |
| MRB1A05 | | 5 | 13 | 203 | 225 | 248 | | | 3.75 | 0.15 | | | | 111 | |
| MRB1A06 | | 6 | 16 | 306 | 340 | 374 | | | 4.5 | 0.15 | | | | 106 | |
| MRB1A12 | | 12 | 32 | 1260 | 1400 | 1540 | | | 9 | 0.7 | | | | 103 | |
| MRB1A24 | | 24 | 57 | 3906 | 4340 | 4774 | | | 18 | 1.4 | | | | 133 | |
| MRB2A05 | | 5 | 9 | 95 | 105 | 116 | | | 3.75 | 0.15 | | | | 238 | |
| MRB2A06 | | 6 | 12 | 162 | 180 | 198 | | | 4.5 | 0.15 | | | | 200 | |
| MRB2A12 | | 12 | 24 | 657 | 730 | 803 | | | 9 | 0.7 | | | | 197 | |
| MRB2A24 | | 24 | 45 | 2250 | 2500 | 2750 | | | 18 | 1.4 | | | | 230 | |
| MRB3A05 | | 5 | 8 | 74 | 82 | 90 | | | 3.75 | 0.15 | | | | 305 | |
| MRB3A06 | | 6 | 11 | 117 | 130 | 143 | | | 4.5 | 0.15 | | | | 277 | |
| MRB3A12 | | 12 | 22 | 513 | 570 | 627 | | | 9 | 0.7 | | | | 253 | |
| MRB3A24 | | 24 | 36 | 1386 | 1540 | 1694 | | | 18 | 1.4 | | | | 374 | |
| MRB4A05 | | 5 | 8 | 54 | 60 | 66 | | | 3.75 | 0.15 | | | | 417 | |
| MRB4A06 | | 6 | 10 | 90 | 100 | 110 | | | 4.5 | .15 | | | | 360 | |
| MRB4A12 | | 12 | 16 | 248 | 275 | 303 | | | 9 | 0.7 | | | | 524 | |
| MRB4A24 | | 24 | 32 | 981 | 1090 | 1199 | | | 18 | 1.4 | | | | 528 | |
| MRB5A05 | | 5 | 7 | 41 | 45 | 50 | | | 3.75 | 0.15 | | | | | |
| MRB5A06 | | 6 | 8 | 63 | 70 | 77 | | | 4.5 | 0.15 | | | | 514 | |
| MRB5A12 | | 12 | 17 | 252 | 280 | 308 | | | 9 | 0.7 | | | | 514 | |
| MRB5A24 | | 24 | 30 | 828 | 920 | 1012 | | | 18 | 1.4 | | | | 626 | |
| MRB6A05 | | 5 | 6 | 29 | 32 | 35 | | | 3.75 | 0.15 | | | | 781 | |
| MRB6A06 | | 6 | 7 | 45 | 50 | 55 | | | 4.5 | 0.15 | | | | 720 | |
| MRB6A12 | | 12 | 15 | 189 | 210 | 231 | | | 9 | 0.7 | | | | 686 | |
| MRB6A24 | | 24 | 31 | 810 | 900 | 990 | | | 18 | 1.4 | | | | 640 | |
| MRB1B05 | | 5 | 6 | 270 | 300 | 330 | | | 3.75 | 0.4 | | | | 83 | |
| MRB1B12 | | 12 | 15 | 1116 | 1240 | 1364 | | | 9 | 1 | | | | 116 | |
| MRB1B24 | | 24 | 30 | 5220 | 5800 | 6380 | | | 18 | 2 | | | | 99 | |
| MRB2B05 | | 5 | 6 | 74 | 82 | 90 | | | 3.75 | 0.4 | | | | 305 | |
| MRB2B12 | | 12 | 15 | 513 | 570 | 627 | | | 9 | 1 | | | | 253 | |
| MRB2B24 | | 24 | 30 | 2097 | 2330 | 2563 | | | 18 | 2 | | | | 247 | |
| MRB1N05 | | 5 | | 45 | 50 | 55 | | | 3.75 | 0.4 | | | | 500 | |
| MRB1N06 | | 6 | | 74 | 82 | 90 | | | 4.5 | 0.5 | | | | 440 | |
| MRB1N12 | | 12 | | 207 | 230 | 253 | | | 9 | 1 | | | | 626 | |
| MRB1N24 | | 24 | | 810 | 900 | 990 | | | 18 | 2 | | | | 640 | |
| MRB2N05 | | 5 | | 25 | 28 | 31 | | | 3.75 | 0.4 | | | | 893 | |
| MRB2N06 | | 6 | | 41 | 45 | 50 | | | 4.5 | 0.5 | | | | 800 | |
| MRB2N12 | | 12 | | 167 | 185 | 204 | | | 9 | 1 | | | | 778 | |
| MRB2N24 | | 24 | | 720 | 800 | 880 | | | 18 | 2 | | | | 720 | |
| MRB1L01 | | 5 | | 81 | 90 | 99 | | | 3.75 | Latch | | | | N/A | |
| MRB2L02 | | 5 | | 99 | 110 | 121 | | | 3.75 | Latch | | | | N/A | |
| 922A05C1C | | 5 | | 180 | 200 | 220 | | | 3.75 | 0.4 | | | | 125 | |
| 922A06C1C | | 6 | | 243 | 270 | 297 | | | 4.5 | 0.5 | | | | 133 | |
| 922A12C1C | | 12 | | 972 | 1080 | 1188 | | | 9 | 1 | | | | 133 | |
| 922A24C1C | | 24 | | 3888 | 4320 | 4752 | | | 18 | 2 | | | | 133 | |

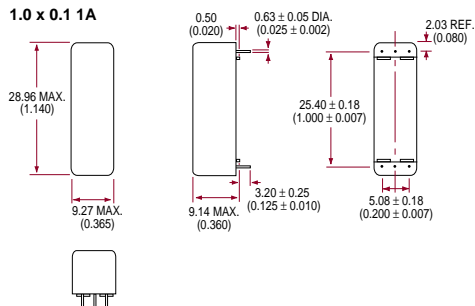
COIL SPECIFICATIONS

| | Coil Voltage | | | Coil Resistance | | | Operate Voltage | | | Release Voltage | | |
|------------|--------------|-----|-----|-----------------|------|------|------------------------|-----|------|------------------------|-----|-----|
| Units | Volts | | | Ω | | | Volts | | | Volts | | |
| Conditions | | | | ±10% (25°C) | | | Must operate by (25°C) | | | Must release by (25°C) | | |
| Part # | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max | Min | Typ | Max |
| 922A05C2C | | 5 | | 90 | 100 | 110 | | | 3.75 | 0.4 | | |
| 922A06C2C | | 6 | | 131 | 145 | 160 | | | 4.5 | 0.5 | | |
| 922A12C2C | | 12 | | 567 | 630 | 693 | | | 9 | 1 | | |
| 922A24C2C | | 24 | | 2268 | 2520 | 2772 | | | 18 | 2 | | |
| 922A05C3C | | 5 | | 68 | 75 | 83 | | | 3.75 | 0.4 | | |
| 922A06C3C | | 6 | | 81 | 90 | 99 | | | 4.5 | 0.5 | | |
| 922A12C3C | | 12 | | 324 | 360 | 396 | | | 9 | 1 | | |
| 922A24C3C | | 24 | | 1188 | 1320 | 1452 | | | 18 | 2 | | |
| 922A05C4C | | 5 | | 45 | 50 | 55 | | | 3.75 | 0.4 | | |
| 922A06C4C | | 6 | | 63 | 70 | 77 | | | 4.5 | 0.5 | | |
| 922A12C4C | | 12 | | 252 | 280 | 308 | | | 9 | 1 | | |
| 922A24C4C | | 24 | | 1008 | 1120 | 1232 | | | 18 | 2 | | |
| MRB1A1505 | | 5 | | 203 | 225 | 248 | | | 3.75 | 0.15 | | |
| MRB1A1506 | | 6 | | 306 | 340 | 374 | | | 4.5 | 0.15 | | |
| MRB1A1512 | | 12 | | 1260 | 1400 | 1540 | | | 9 | 0.7 | | |
| MRB1A1524 | | 24 | | 3906 | 4340 | 4774 | | | 18 | 1.4 | | |
| MRB2A1505 | | 5 | | 72 | 80 | 88 | | | 3.75 | 0.15 | | |
| MRB2A1506 | | 6 | | 117 | 130 | 143 | | | 4.5 | 0.15 | | |
| MRB2A1512 | | 12 | | 513 | 570 | 627 | | | 9 | 0.7 | | |
| MRB2A1524 | | 24 | | 1395 | 1550 | 1705 | | | 18 | 1.4 | | |
| MRB3A1505 | | 5 | | 54 | 60 | 66 | | | 3.75 | 0.15 | | |
| MRB3A1506 | | 6 | | 90 | 100 | 110 | | | 4.5 | 0.15 | | |
| MRB3A1512 | | 12 | | 405 | 450 | 495 | | | 9 | 0.7 | | |
| MRB3A1524 | | 24 | | 981 | 1090 | 1199 | | | 18 | 1.4 | | |
| MRB4A1505 | | 5 | | 29 | 32 | 35 | | | 3.75 | 0.15 | | |
| MRB4A1506 | | 6 | | 45 | 50 | 55 | | | 4.5 | 0.15 | | |
| MRB4A1512 | | 12 | | 189 | 210 | 231 | | | 9 | 0.7 | | |
| MRB4A1524 | | 24 | | 810 | 900 | 990 | | | 18 | 1.4 | | |

MECHANICAL DIMENSIONS

DIMENSIONS
mm
(inches)

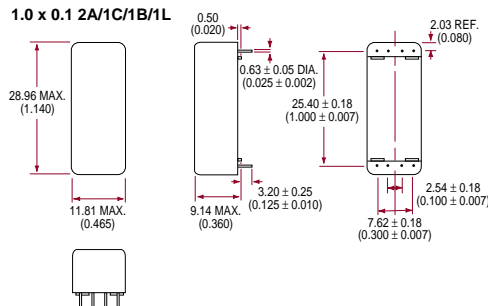
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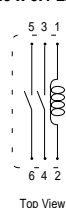
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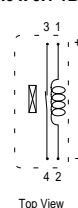
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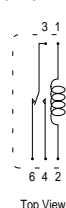
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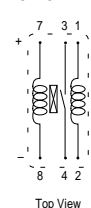
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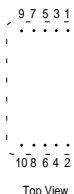
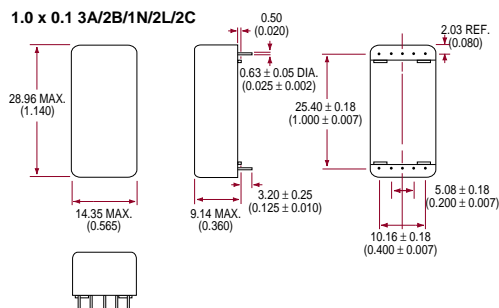
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1.0 x 0.1 1L



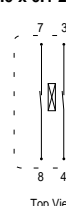
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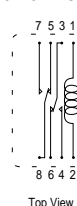
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1.0 x 0.1 2B



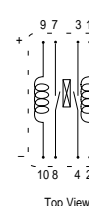
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1.0 x 0.1 1N



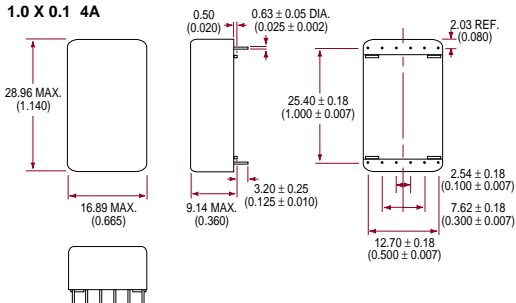
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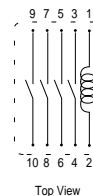
MECHANICAL DIMENSIONS

DIMENSIONS
mm
(inches)

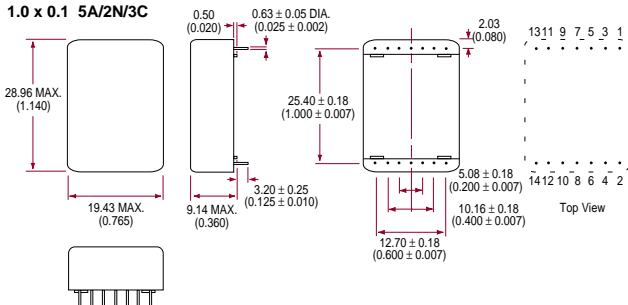
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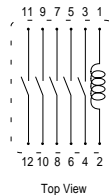
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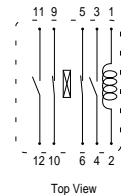
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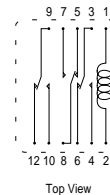
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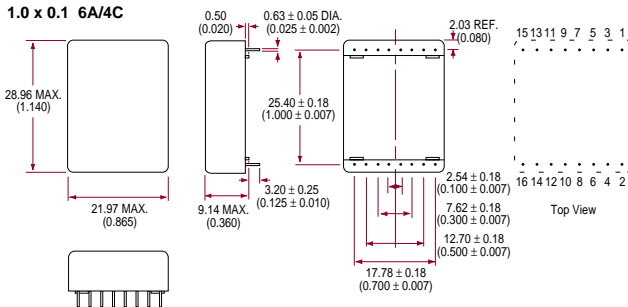
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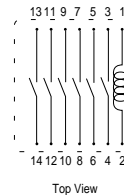
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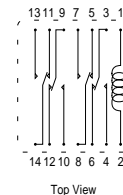
1.0 x 0.1 6A/4C



1.0 x 0.1 6A



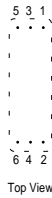
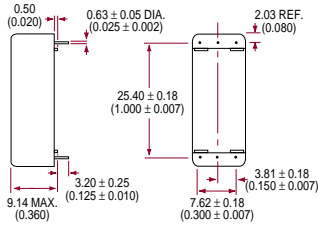
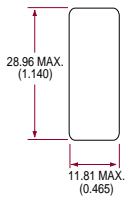
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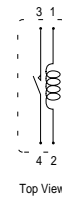
MECHANICAL DIMENSIONS

DIMENSIONS
mm
(inches)

1.0 x .15 1A

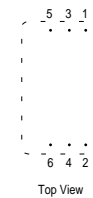
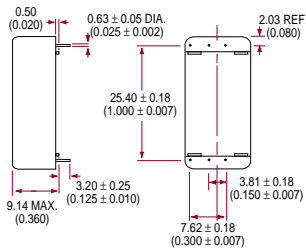
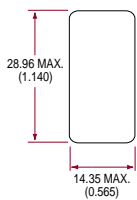


1.0 x .15 1A



Top View

1.0 x .15 2A

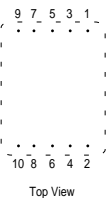
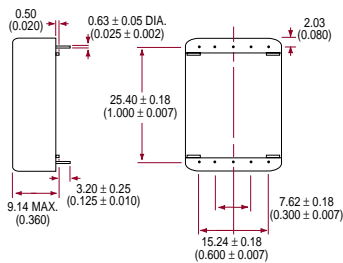
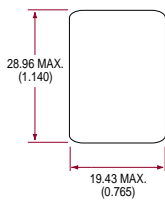


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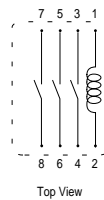


Top View

1.0 x .15 3A

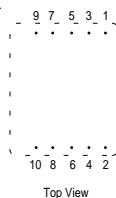
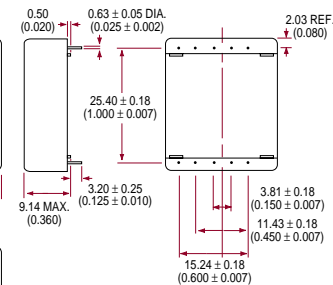
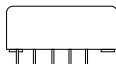
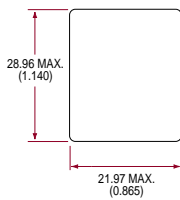


1.0 x .15 3A

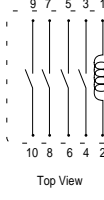


Top View

1.0 x .15 4A



1.0 x .15 4A



Top View

ORDERING INFORMATION

A complete part number is represented by the digits below.

