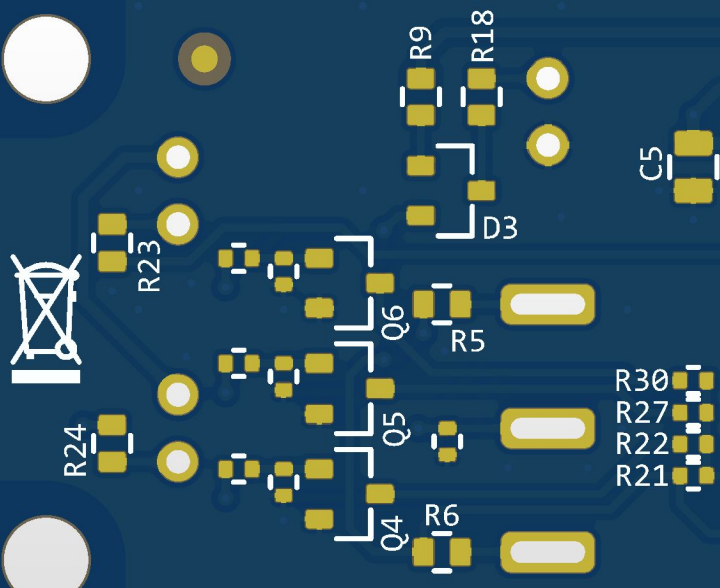
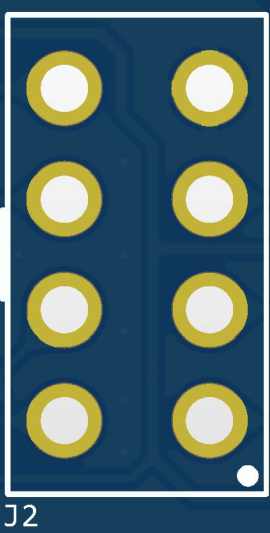


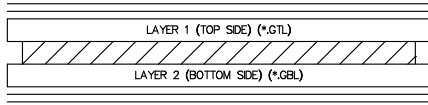
MR0619A31

MicroRa1ly

MR-SP3SM



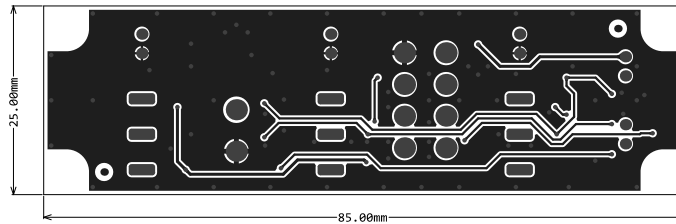
1.0 OZ L1
1.50 mm Core - FR4
1.0 OZ L2



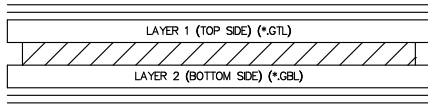
PASTE (TOP SIDE) (*.GTP)
SILKSCREEN (TOP SIDE) (*.GTO)
SOLDERMASK (TOP SIDE) (*.GTS)
1.6 mm \pm 10% LAYER DETAIL
2 LAYERS
SOLDERMASK (BOTTOM SIDE) (*.GBS)
SILKSCREEN (BOTTOM SIDE) (*.GBO)
PASTE (BOTTOM SIDE) (*.GBP)

NOTES: (UNLESS OTHERWISE SPECIFIED)

- 1) THIS IS 2 LAYER BOARD
- 2) MATERIAL: FR4, TG 150 DEGREE C MIN
- 3) FR4 DIELECTRIC CONSTANT 4.2 @ 1GHZ
- 4) FINISHED BOARD THICKNESS TO BE 1.60MM \pm 10%
- 5) TRACE WIDTHS IN ARTWORK ARE FINISHED SIZES
- 6) SEE FILM FOR LAYER SEQUENCE AND COPPER THICKNESSES (SHOWN BEFORE PLATING)
- 7) MIN TRACE/SPACE 0.30/0.25MM
- 8) SEE DRILL CHART FOR FINISHED HOLE SIZES
- 9) MIN DRILL 0.30MM
- 10) HOLE TOLERANCE IS \pm 3MIL UNLESS OTHERWISE SPECIFIED
HOLE COPPER THICKNESS MIN 0.7MIL
SLOT TOLERANCE \pm 0.1MM
BORDER OUTLINE TOLERANCE \pm 0.15MM
- 11) SURFACE PLATING: HASL, Pb FREE
- 12) SOLDERMASK: LPI, BOTH SIDES. COLOR BLUE
- 13) SILKSCREEN: BOTH SIDES. COLOR WHITE
- 14) ALL BOARDS MUST BE ELECTRICALLY TESTED FOR ISOLATION (SHORTS) AND CONTINUITY (OPENS)



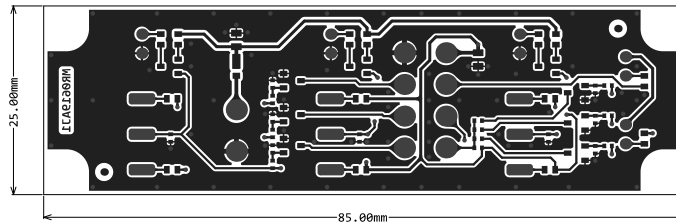
1.0 OZ L1
1.50 mm Core - FR4
1.0 OZ L2



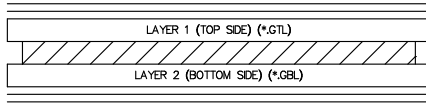
PASTE (TOP SIDE) (*GTP)
SILKSCREEN (TOP SIDE) (*GTO)
SOLDERMASK (TOP SIDE) (*GTS)
1.6 mm +/- 10% LAYER DETAIL
2 LAYERS
SOLDERMASK (BOTTOM SIDE) (*GBS)
SILKSCREEN (BOTTOM SIDE) (*GBO)
PASTE (BOTTOM SIDE) (*GBP)

NOTES: (UNLESS OTHERWISE SPECIFIED)

- 1) THIS IS 2 LAYER BOARD
- 2) MATERIAL: FR4, TG 150 DEGREE C MIN
- 3) FR4 DIELECTRIC CONSTANT 4.2 @ 1GHZ
- 4) FINISHED BOARD THICKNESS TO BE 1.60MM +/- 10%
- 5) TRACE WIDTHS IN ARTWORK ARE FINISHED SIZES
- 6) SEE FILM FOR LAYER SEQUENCE AND COPPER THICKNESSES (SHOWN BEFORE PLATING)
- 7) MIN TRACE/SPACE 0.30/0.25MM
- 8) SEE DRILL CHART FOR FINISHED HOLE SIZES
- 9) MIN DRILL 0.30MM
- 10) HOLE TOLERANCE IS +/-3MIL UNLESS OTHERWISE SPECIFIED
HOLE COPPER THICKNESS MIN 0.7MIL
SLOT TOLERANCE +/-0.1MM
BORDER OUTLINE TOLERANCE +/-0.15MM
- 11) SURFACE PLATING: HASL, Pb FREE
- 12) SOLDERMASK: LPI, BOTH SIDES. COLOR BLUE
- 13) SILKSCREEN: BOTH SIDES. COLOR WHITE
- 14) ALL BOARDS MUST BE ELECTRICALLY TESTED FOR ISOLATION (SHORTS) AND CONTINUITY (OPENS)



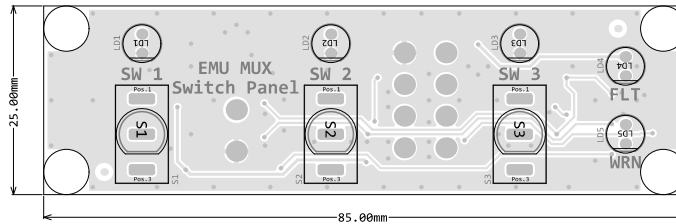
1.0 OZ L1
1.50 mm Core - FR4
1.0 OZ L2



PASTE (TOP SIDE) (*GTP)
SILKSCREEN (TOP SIDE) (*GTO)
SOLDERMASK (TOP SIDE) (*GTS)
1.6 mm +/- 10% LAYER DETAIL
2 LAYERS
SOLDERMASK (BOTTOM SIDE) (*GBS)
SILKSCREEN (BOTTOM SIDE) (*GBO)
PASTE (BOTTOM SIDE) (*GBP)

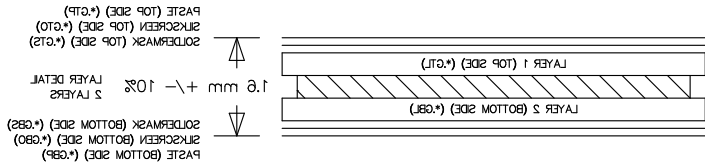
NOTES: (UNLESS OTHERWISE SPECIFIED)

- 1) THIS IS 2 LAYER BOARD
- 2) MATERIAL: FR4, TG 150 DEGREE C MIN
- 3) FR4 DIELECTRIC CONSTANT 4.2 @ 1GHZ
- 4) FINISHED BOARD THICKNESS TO BE 1.60MM +/- 10%
- 5) TRACE WIDTHS IN ARTWORK ARE FINISHED SIZES
- 6) SEE FILM FOR LAYER SEQUENCE AND COPPER THICKNESSES (SHOWN BEFORE PLATING)
- 7) MIN TRACE/SPACE 0.30/0.25MM
- 8) SEE DRILL CHART FOR FINISHED HOLE SIZES
- 9) MIN DRILL 0.30MM
- 10) HOLE TOLERANCE IS +/-3MIL UNLESS OTHERWISE SPECIFIED
HOLE COPPER THICKNESS MIN 0.7MIL
SLOT TOLERANCE +/-0.1MM
BORDER OUTLINE TOLERANCE +/-0.15MM
- 11) SURFACE PLATING: HASL, Pb FREE
- 12) SOLDERMASK: LPI, BOTH SIDES. COLOR BLUE
- 13) SILKSCREEN: BOTH SIDES. COLOR WHITE
- 14) ALL BOARDS MUST BE ELECTRICALLY TESTED FOR ISOLATION (SHORTS) AND CONTINUITY (OPENS)





1.0 0.5 1.5
1.20 mm Core - FR4



- NOTES: (UNLESS OTHERWISE SPECIFIED)
- 1) THIS IS 2 LAYER BOARD
 - 2) MATERIAL: FR4 TG 150 DEGREE C MIN
 - 3) FR4 DIELECTRIC CONSTANT 4.5 @ 1GHZ
 - 4) FINISHED BOARD THICKNESS TO BE 1.60MM +\ - 10%
 - 5) TRACE WIDTHS IN ARTWORK ARE FINISHED SIZES
 - 6) SEE FILM FOR LAYER SEQUENCE AND COPPER THICKNESSES (SHOWN BEFORE PLATING)
 - 7) MIN TRACE SPACE 0.30\0.25MM
 - 8) SEE DRILL CHART FOR FINISHED HOLE SIZES
 - 9) MIN DRILL 0.30MM
 - 10) HOLE TOLERANCE IS +\ - 3MIL UNLESS OTHERWISE SPECIFIED
 - HOLE COPPER THICKNESS MIN 0.2MIL
 - SLOT TOLERANCE +\ - 0.1MM
 - BORDER OUTLINE TOLERANCE +\ - 0.12MM
 - 11) SURFACE PLATING: HASL, PB FREE
 - 12) SOLDERMASK: LPL BOTH SIDES. COLOR BLUE
 - 13) SILKSCREEN: BOTH SIDES. COLOR WHITE
 - 14) ALL BOARDS MUST BE ELECTRICALLY TESTED FOR ISOLATION (SHORTS) AND CONTINUITY (OPENS)