

Surface Mount Matching Pad

50/75Ω

DC to 3000 MHz

Maximum Ratings

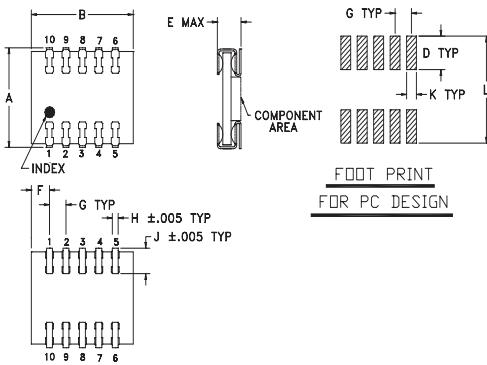
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Input Power | 0.25W |

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

| | |
|--------|------------------|
| 50 OHM | 2 |
| 75 OHM | 6 |
| GROUND | 1,3,4,5,7,8,9,10 |

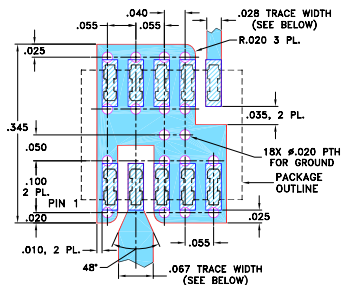
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | L | wt |
|------|------|----|------|------|------|------|------|------|------|------|-------|
| .27 | .31 | -- | .090 | .080 | .055 | .050 | .018 | .074 | .030 | .290 | grams |
| 6.86 | 7.87 | -- | 2.29 | 2.03 | 1.40 | 1.27 | 0.46 | 1.88 | 0.76 | 7.37 | 0.3 |

Demo Board MCL P/N: TB-25 Suggested PCB Layout (PL-211)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- excellent flatness, ±0.1 dB typ.
- excellent VSWR, 1.2:1 typ.
- wideband coverage, DC to 3000 MHz
- aqueous washable
- low cost

Applications

- 50 to 75 OHM wideband impedance matching

ALMP-5075+ ALMP-5075



Generic photo used for illustration purposes only

CASE STYLE: CB518

+RoHS Compliant

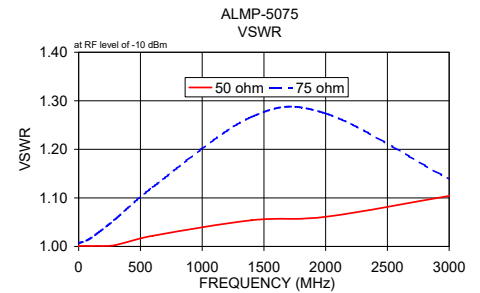
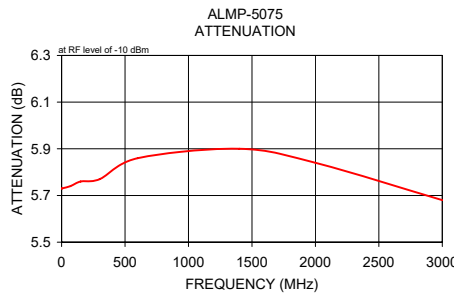
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

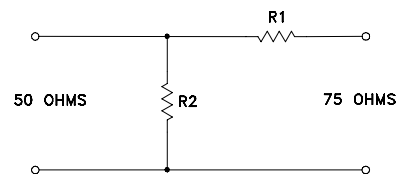
| FREQ. (MHz) | Flatness Max. | ATTENUATION (dB) | | | VSWR (:1) Max. | | | POWER (W) |
|----------------|---------------|---------------------|-----------------|------------------|----------------------|-----------------|------------------|--------------|
| | | DC-100 MHz | 100-1000 MHz | 1000-3000 MHz | DC-100 MHz | 100-1000 MHz | 1000-3000 MHz | |
| $f_L - f_U$ | Nom. | | | | | | | |
| DC-3000 | 5.7±0.2 | 0.2 | 0.4 | 0.4 | 1.06 | 1.4 | 1.45 | 0.25 |

Typical Performance Data

| Frequency (MHz) | Attenuation (dB) | VSWR (:1) | |
|--------------------|---------------------|-----------|------|
| | | 50 Ω | 75 Ω |
| 0.03 | 5.73 | 1.00 | 1.01 |
| 0.10 | 5.73 | 1.00 | 1.01 |
| 1.00 | 5.73 | 1.00 | 1.01 |
| 70.00 | 5.74 | 1.00 | 1.01 |
| 150.00 | 5.76 | 1.00 | 1.03 |
| 300.00 | 5.77 | 1.00 | 1.06 |
| 600.00 | 5.86 | 1.02 | 1.12 |
| 1400.00 | 5.90 | 1.05 | 1.27 |
| 2000.00 | 5.84 | 1.06 | 1.27 |
| 3000.00 | 5.68 | 1.10 | 1.14 |



Electrical Schematic



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp



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REV. C
M151107
ED-7340/2
ALMP-5075
DJ/TD/CP
200407

Matching Pad 50W/75W, Surface Mount

ALMP-5075+

Typical Performance Data

| FREQUENCY (MHz) | ATTENUATION (dB) | 50 W RETURN LOSS (dB) | 75 W RETURN LOSS (dB) |
|--------------------|---------------------|-----------------------------|-----------------------------|
| 0.03 | 5.73 | 66.02 | 50.48 |
| 0.1 | 5.73 | 66.02 | 49.15 |
| 1 | 5.73 | 66.02 | 49.15 |
| 70 | 5.74 | 66.02 | 43.80 |
| 150 | 5.76 | 66.02 | 37.51 |
| 300 | 5.77 | 56.49 | 31.15 |
| 600 | 5.86 | 39.27 | 24.81 |
| 1400 | 5.90 | 31.60 | 18.58 |
| 2000 | 5.84 | 30.57 | 18.38 |
| 3000 | 5.68 | 26.12 | 23.74 |

REV. X1
ALMP-5075+
061115
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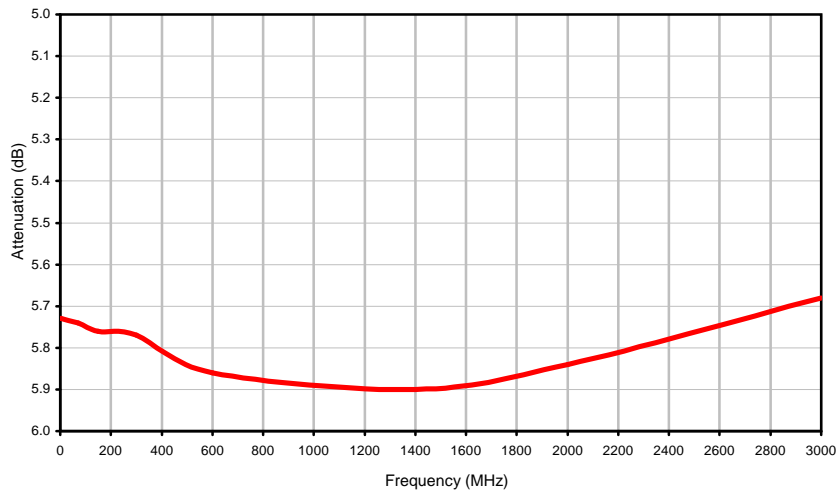


The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see

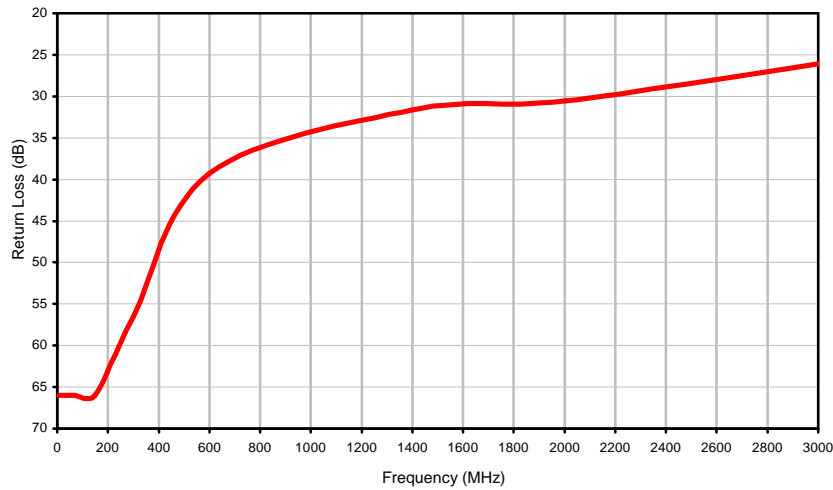


Typical Performance Curves

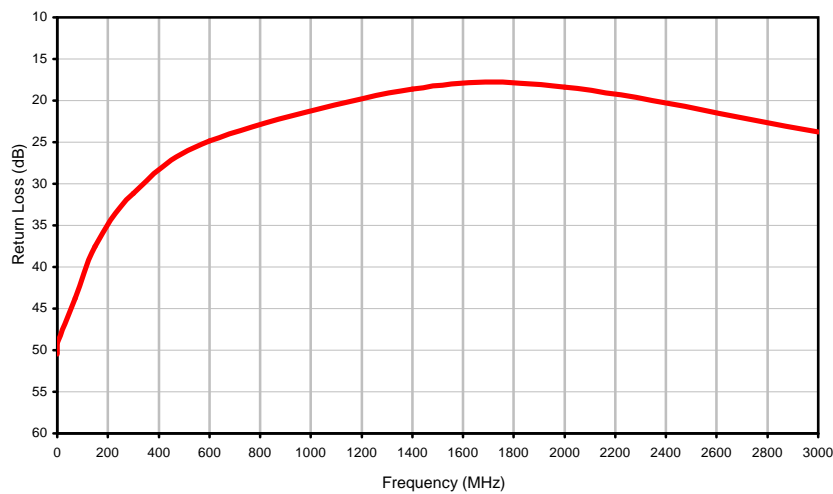
Attenuation



50 Ohm Return Loss



75 Ohm Return Loss



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061115
Page 1 of 1



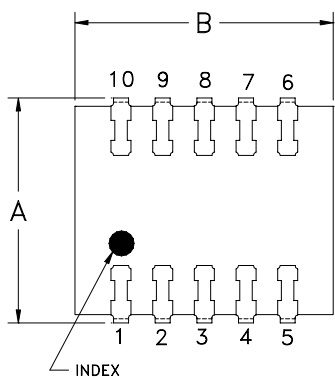
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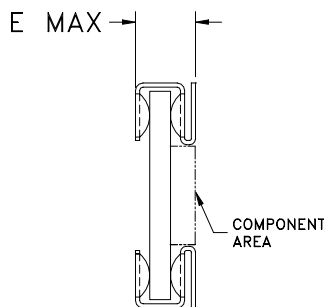
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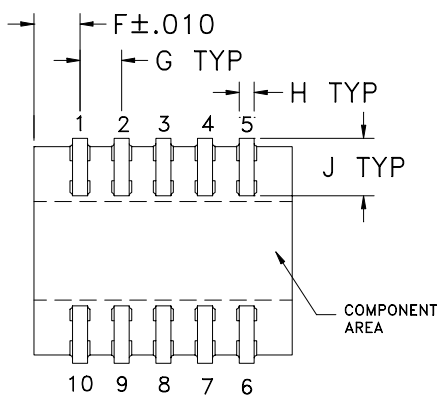
Outline Dimensions



TOP VIEW

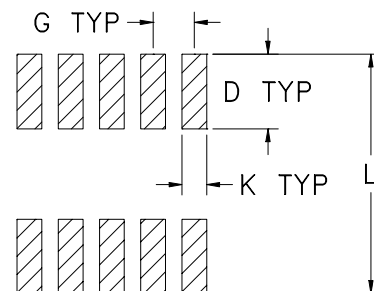


SIDE VIEW



BOTTOM VIEW

PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm.002$

| CASE # | A | B | C | D | E | F | G | H | J | K | L | WT. GRAM |
|--------|---------------|---------------|---|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------|
| CB518 | .27 (6.86) | .31 (7.87) | - | .090 (2.29) | .080 (2.03) | .055 (1.40) | .050 (1.27) | .018 (0.46) | .074 (1.88) | .030 (0.76) | .290 (7.37) | .3 |
| CB539 | .29 (7.36) | .30 (7.62) | - | | .085 (2.16) | .050 (1.27) | | | .067 (1.70) | | .315 (8.00) | .3 |

Dimensions are in inches (mm). Tolerances: 2Pl. $\pm .01$; 3 Pl. $\pm .005$

Notes:

- Open style, ceramic base.
- Termination finish:
For RoHS Case Styles: Tin plate over Nickel plate. All models, (+) suffix.
For RoHS-5 Case Styles: Tin-Lead plate. All models, no (+) suffix.



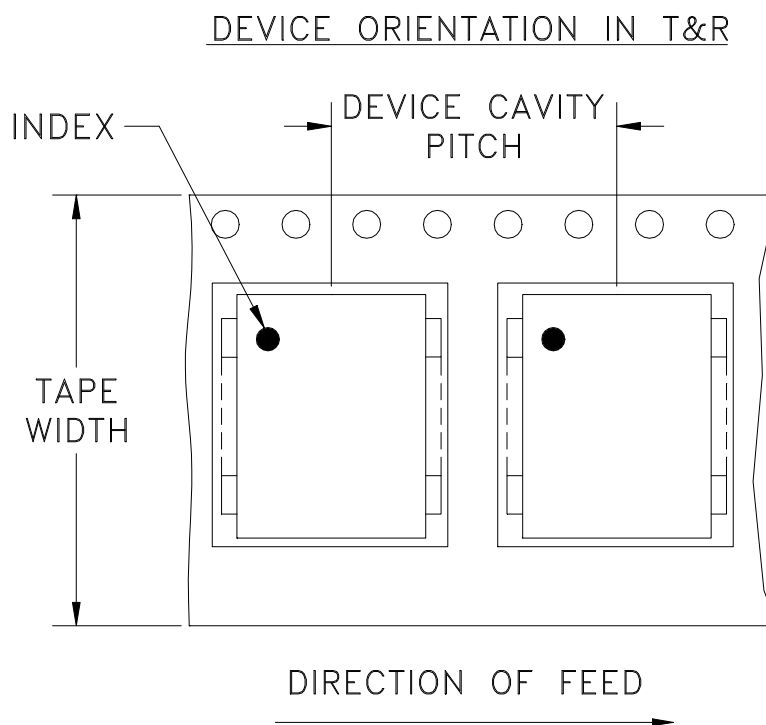
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Tape & Reel Packaging TR-F24



| Tape Width, mm | Device Cavity Pitch, mm | Reel Size, inches | Devices per Reel |
|----------------|-------------------------|-------------------|------------------|
| 16 | 12 | 13 | 500 |

Mini-Circuits carrier tape materials provide protection from ESD (Electro-Static Discharge) during handling and transportation. Tapes are static dissipative and comply with industry standards EIA-481/EIA-541.

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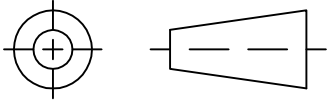
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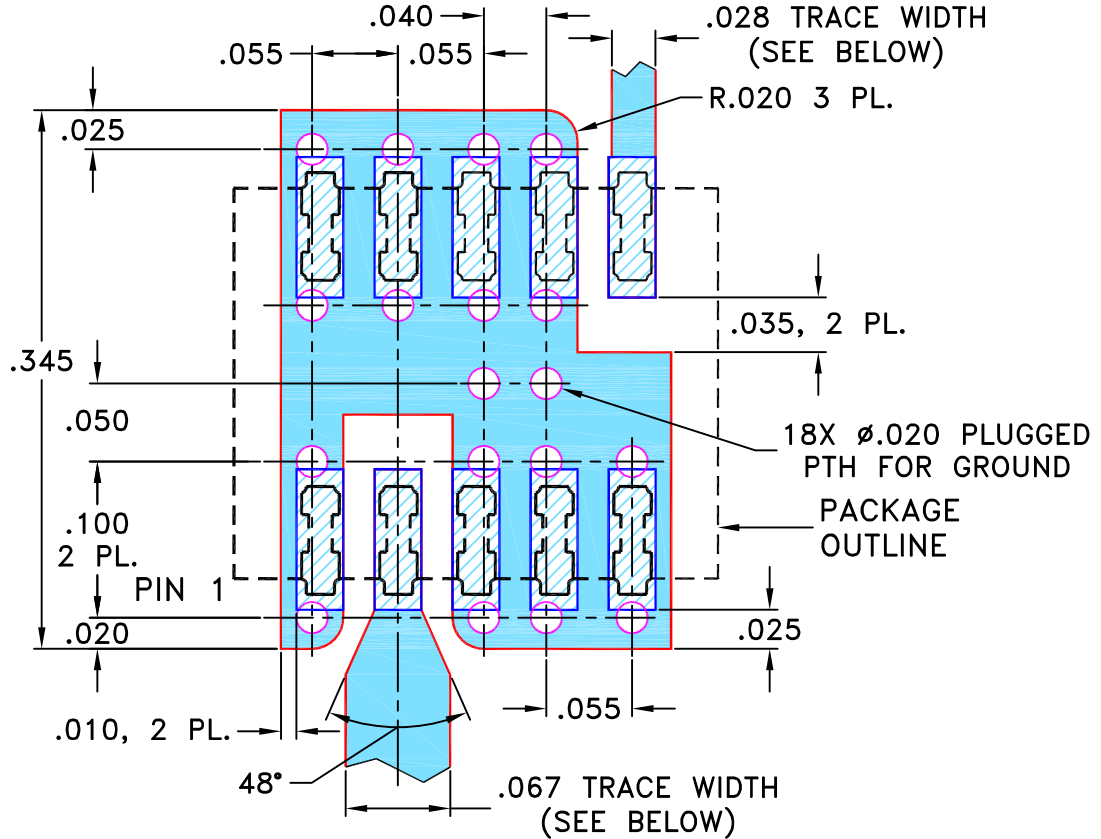
THIRD ANGLE PROJECTION



REVISIONS

| REV | ECN No. | DESCRIPTION | DATE | DR | AUTH |
|-----|---------|------------------------|----------|-----|------|
| OR | M100736 | NEW RELEASE | 09/16/05 | MMG | DJ |
| A | M102713 | ADDED "...WITH SMOBC" | 01/12/06 | GT | IL |
| B | M149063 | PTH DEFINED AS PLUGGED | 12/16/14 | ITG | DJ |

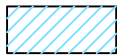
SUGGESTED MOUNTING CONFIGURATION
FOR CB518 CASE STYLE, "ml" PIN CONNECTION.



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.



DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)



DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

| UNLESS OTHERWISE SPECIFIED | INITIALS | DATE |
|--|----------|--------------|
| DIMENSIONS ARE IN INCHES TOLERANCES ON: 2 PL DECIMALS ± 3 PL DECIMALS ± .005 ANGLES ± FRACTIONS ± | DRAWN | MMG 09/09/05 |
| | CHECKED | AV 09/16/05 |
| | APPROVED | DJ 09/16/05 |



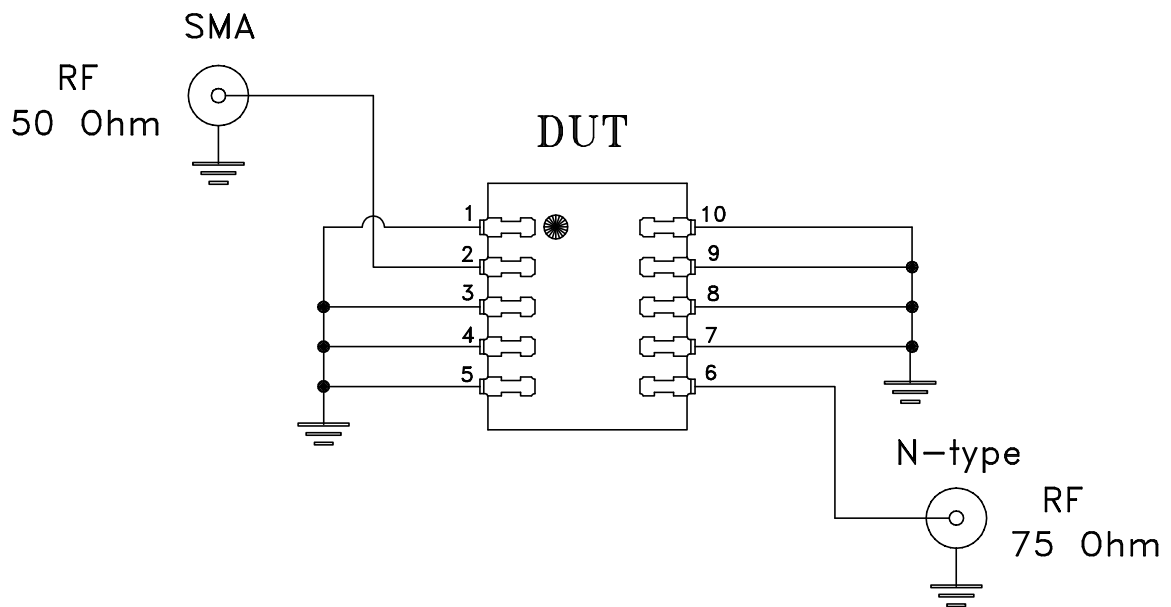
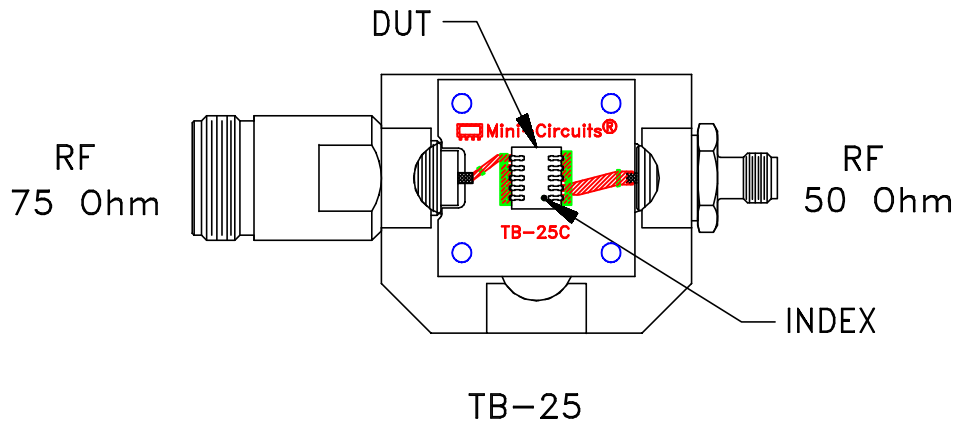
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PL, ml, CB518, ALMP-5075, TB-25

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| | | | |
|------------------|---------------------|--------------------------|-----------|
| SIZE A | CODE IDENT 15542 | DRAWING NO: 98-PL-211 | REV: B |
| FILE: 98PL211 | SCALE: 8:1 | SHEET: 1 OF 1 | |


Evaluation Board and Circuit



Schematic Diagram

Notes:

1. SMA and N Female connectors.
2. PCB Material: Rogers R04350 or equivalent,
Dielectric Constant=3.5, Thickness=.030 inch.

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All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

| Specification | Test/Inspection Condition | Reference/Spec |
|--------------------------------|---|--|
| Operating Temperature | -40° to 85°C Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C Ambient Environment | Individual Model Data Sheet |
| Humidity | 90 to 95% RH, 240 hours, 50°C | MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours |
| Thermal Shock | -55° to 100°C, 100 cycles | MIL-STD-202, Method 107, Condition A-3, except +100°C |
| Solder Reflow Heat | Sn-Pb Eutetic Process: 225°C peak Pb-Free Process 245° - 250°C peak | J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1 |
| Solderability | 10X Magnification | J-STD-002, 95% Coverage |
| Vibration (High Frequency) | 20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36) | MIL-STD-202, Method 204, Condition D |
| Mechanical Shock | 50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes | MIL-STD-202, Method 213, Condition A |
| Marking Resistance to Solvents | Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C | MIL-STD-202, Method 215 |