



CASE STYLE: A11

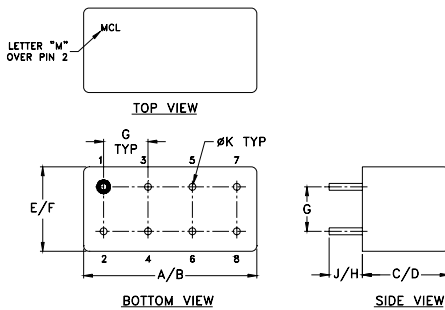
### Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -55°C to 100°C |
| Storage Temperature                                             | -55°C to 100°C |
| RF Power                                                        | 0.25W          |
| DC Current                                                      | 30mA           |
| Permanent damage may occur if any of these limits are exceeded. |                |

### Pin Connections

|               |      |
|---------------|------|
| PRIMARY DOT   | 1    |
| PRIMARY       | 5    |
| SECONDARY DOT | 2    |
| SECONDARY     | 6    |
| SECONDARY CT  | 4    |
| CASE GROUND   | 7, 8 |
| NOT USED      | 3    |

### Outline Drawing



### Outline Dimensions (inch/mm)

| A     | B     | C    | D    | E    | F    |
|-------|-------|------|------|------|------|
| .480  | .500  | .240 | .255 | .210 | .230 |
| 12.19 | 12.70 | 6.10 | 6.48 | 5.33 | 5.84 |

| G    | H    | J    | K    | wt    |
|------|------|------|------|-------|
| .100 | .20  | .14  | .020 | grams |
| 2.54 | 5.08 | 3.56 | 0.51 | 1.9   |

### Features

- excellent return loss
- hermetic case

### Applications

- military, hi-rel requirements
- impedance matching

### +RoHS Compliant

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

### Transformer Electrical Specifications

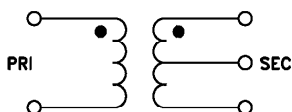
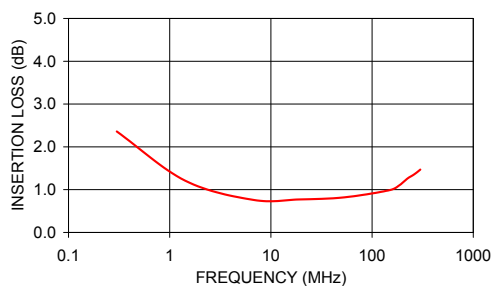
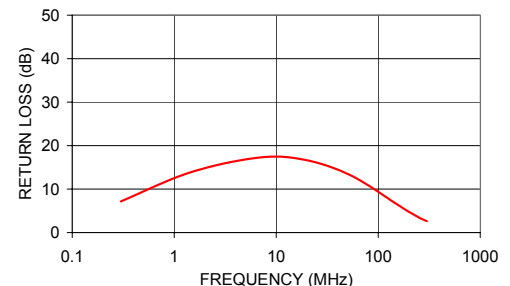
| Ω<br>RATIO<br>(Secondary/Primary) | FREQUENCY<br>(MHz) | INSERTION LOSS* |             |             |
|-----------------------------------|--------------------|-----------------|-------------|-------------|
|                                   |                    | 3 dB<br>MHz     | 2 dB<br>MHz | 1 dB<br>MHz |
| 5                                 | 0.3-300            | 0.3-300         | 0.6-200     | 5-100       |

\*Insertion Loss is referenced to mid-band loss, 0.75 dB typ.

### Typical Performance Data

| FREQUENCY<br>(MHz) | INSERTION<br>LOSS<br>(dB) | INPUT<br>R. LOSS<br>(dB) |
|--------------------|---------------------------|--------------------------|
| 0.30               | 2.36                      | 7.17                     |
| 1.42               | 1.21                      | 13.79                    |
| 6.72               | 0.76                      | 17.23                    |
| 18.93              | 0.77                      | 16.75                    |
| 53.35              | 0.82                      | 13.20                    |
| 150.36             | 0.99                      | 6.60                     |
| 188.20             | 1.11                      | 5.13                     |
| 223.68             | 1.26                      | 4.13                     |
| 261.29             | 1.36                      | 3.25                     |
| 300.00             | 1.47                      | 2.63                     |

### Config. A

TMO-5-1T+  
INSERTION LOSSTMO-5-1T+  
INPUT RETURN LOSS

### Notes

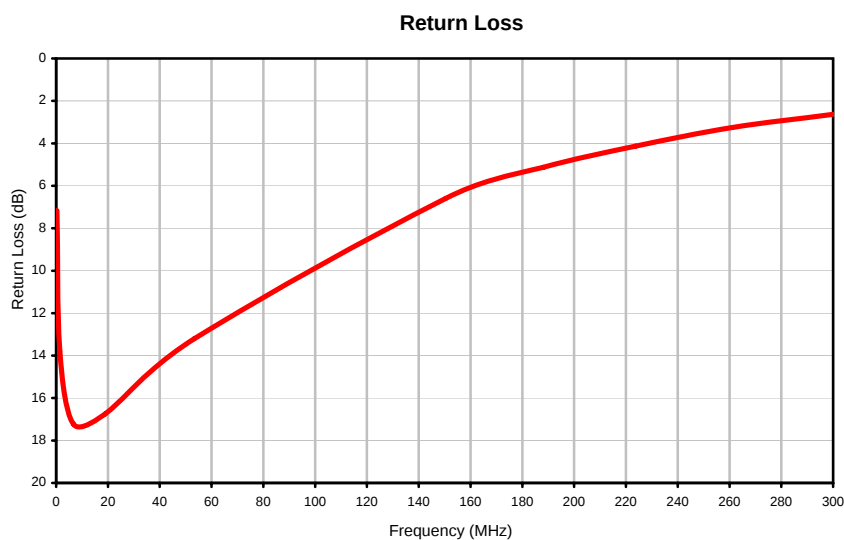
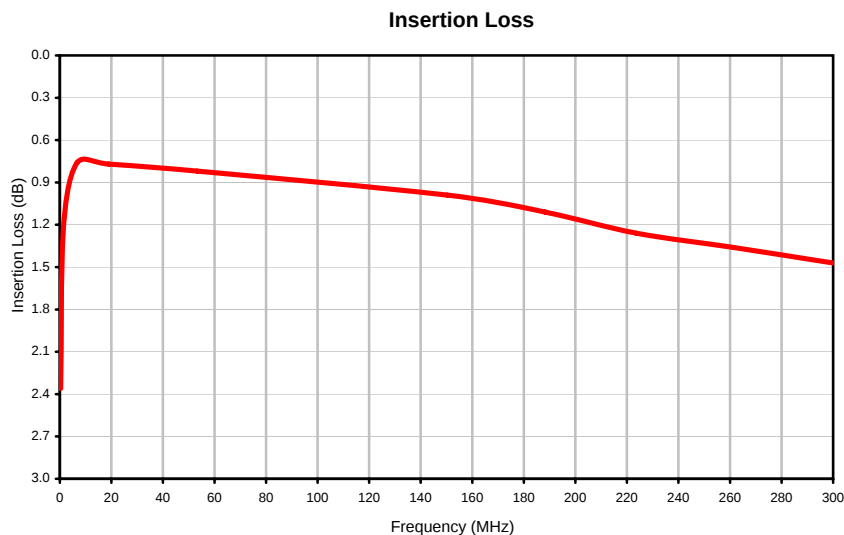
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*Typical Performance Data*

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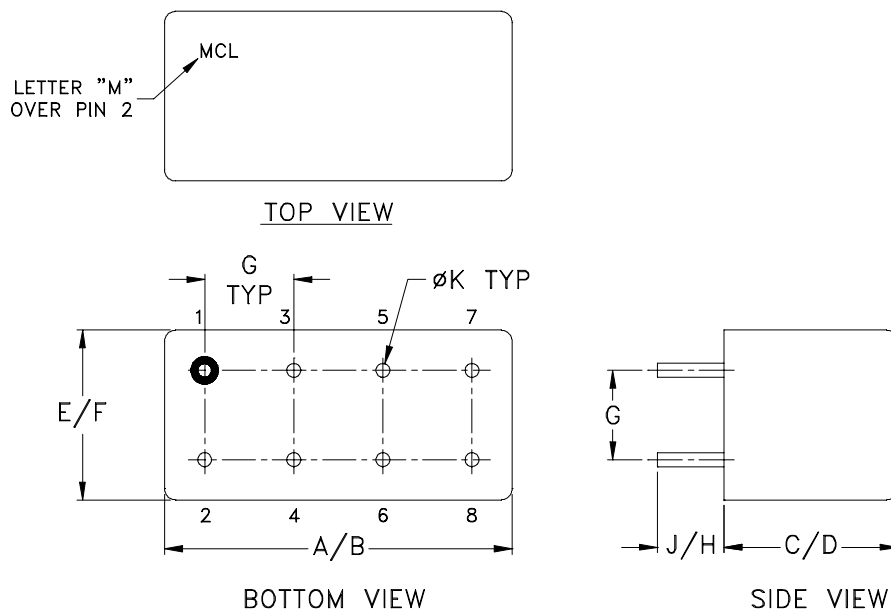
## Typical Performance Curves



A03

A11

## Outline Dimensions



| CASE# | A               | B               | C              | D               | E              | F              | G              | H             | J             | K             | WT,<br>GRAM |
|-------|-----------------|-----------------|----------------|-----------------|----------------|----------------|----------------|---------------|---------------|---------------|-------------|
| A03   | .480<br>(12.19) | .500<br>(12.70) | .390<br>(9.91) | .405<br>(10.29) | .210<br>(5.33) | .230<br>(5.84) | .100<br>(2.54) | .20<br>(5.08) | .14<br>(3.56) | .020<br>(.51) | 2.3         |
| A11   |                 |                 | .240<br>(6.10) | .255<br>(6.48)  |                |                |                |               |               |               | 1.9         |

Dimensions are in inches (mm). Tolerances: 2 Pl.  $\pm .03$ ; 3 Pl.  $\pm .015$

### Notes:

- Header material: C.R.S.  
Pin material: #52 alloy.  
Cover material: Cupro-Nickel.
- Pin finish: Electro Tin-Silver.
- Insulated spacer available. Request P/N B14-047-01.
- Tolerance on pin diameter  $\pm .005$  inch.
- Glass meniscus 0.015 inch max.
- Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.



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P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

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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          | -55° to 100° C<br>Ambient Environment                                                                                                                           | Individual Model Data Sheet                                                                          |
| Storage Temperature            | -55° to 100° C<br>Ambient Environment                                                                                                                           | Individual Model Data Sheet                                                                          |
| Thermal Shock                  | -55° to 100°C, 100 cycles                                                                                                                                       | MIL-STD-202, Method 107, Condition A-3, except +100°C                                                |
| 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                                                                 |
| Moisture Resistance            | 10 cycles, 24 hours per cycle                                                                                                                                   | MIL-STD-202, Method 106, Condition A, except 50°C and end point electrical test done within 12 hours |
| Solderability                  | 10X Magnification                                                                                                                                               | J-STD-002, 95% Coverage                                                                              |
| Resistance to Solder Heat      | 260°C for 10 seconds                                                                                                                                            | MIL-STD-202, Method 210, Condition B                                                                 |
| Marking Resistance to Solvents | Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C;<br>distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C | MIL-STD-202, Method 215                                                                              |
| Terminal Strength              | 4 1/2 Pound Pull                                                                                                                                                | MIL-STD-202, Method 211, Condition A                                                                 |



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| Specification       | Test/Inspection Condition | Reference/Spec                       |
|---------------------|---------------------------|--------------------------------------|
| Gross Leak          | 125°C Bubble Test         | MIL-STD-202, Method 112, Condition D |
| Barometric Pressure | 100,000 Feet              | MIL-STD-202, Method 105, Condition D |