

RF Transformer

T1-1-X65

50Ω

0.15 to 400 MHz



CASE STYLE: X65

Maximum Ratings

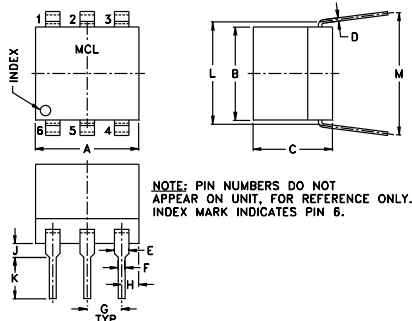
| | |
|-----------------------|----------------|
| Operating Temperature | -20°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 250mW |
| DC Current | 30mA |

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

Pin Connections

| | |
|---------------|-----|
| PRIMARY DOT | 4 |
| PRIMARY | 6 |
| SECONDARY DOT | 3 |
| SECONDARY | 1 |
| SECONDARY CT | — |
| NOT USED | 2,5 |

Outline Drawing



Outline Dimensions (inch)

| A | B | C | D | E | F | G |
|------|------|------|------|------|------|------|
| .30 | .27 | .23 | .010 | .042 | .020 | .100 |
| 7.62 | 6.86 | 5.84 | 0.25 | 1.07 | 0.51 | 2.54 |

| H | J | K | L | M | wt |
|------|------|------|------|------|-------|
| .05 | .04 | .11 | .300 | .35 | grams |
| 1.27 | 1.02 | 2.79 | 7.62 | 8.89 | 0.50 |

Features

- wideband, 0.15 to 400 MHz
- good return loss
- also available with radial leads (W38) & surface mount gull-wing (KK81)

Applications

- VHF/UHF
- receivers/transmitters

Transformer Electrical Specifications

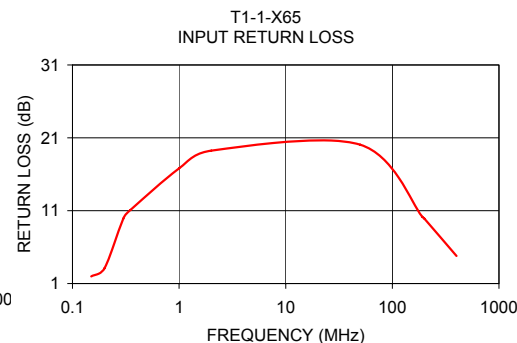
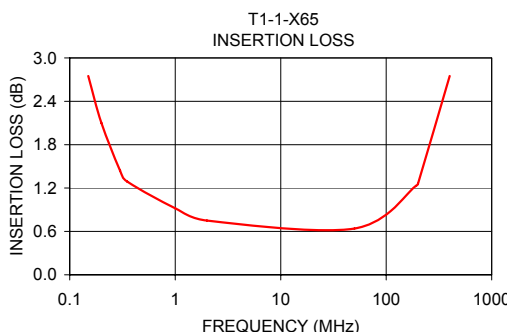
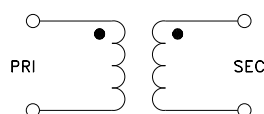
| Ω RATIO | FREQUENCY (MHz) | INSERTION LOSS* | | |
|------------|--------------------|-----------------|-------------|-------------|
| | | 3 dB MHz | 2 dB MHz | 1 dB MHz |
| 1 | 0.15-400 | 0.15-400 | 0.35-200 | 2-50 |

* Insertion Loss is referenced to mid-band loss, 0.6 dB typ.

Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|--------------------|---------------------------|--------------------------|
| 0.15 | 2.75 | 1.98 |
| 0.20 | 2.10 | 3.10 |
| 0.30 | 1.44 | 9.92 |
| 0.35 | 1.29 | 11.10 |
| 1.00 | 0.92 | 16.82 |
| 2.00 | 0.75 | 19.24 |
| 50.00 | 0.64 | 20.06 |
| 191.32 | 1.23 | 10.15 |
| 200.00 | 1.26 | 9.90 |
| 400.00 | 2.75 | 4.79 |

Config. C



Notes

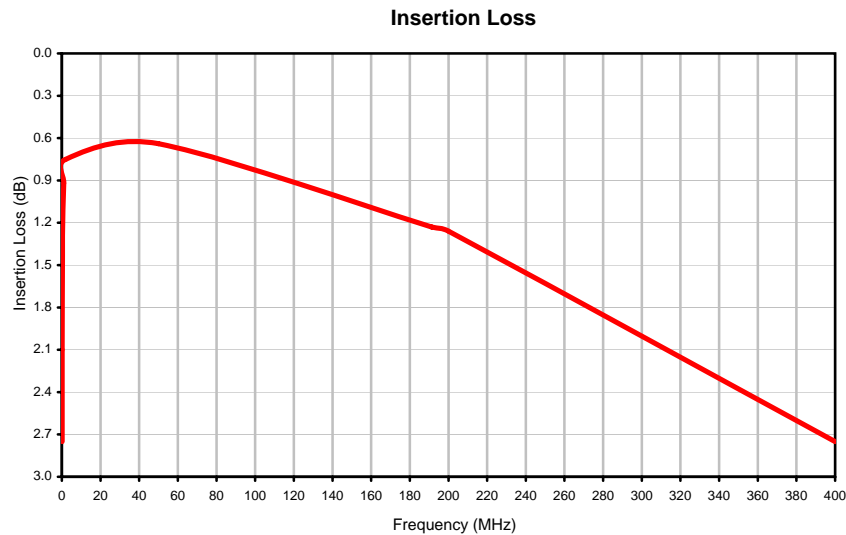
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Typical Performance Data

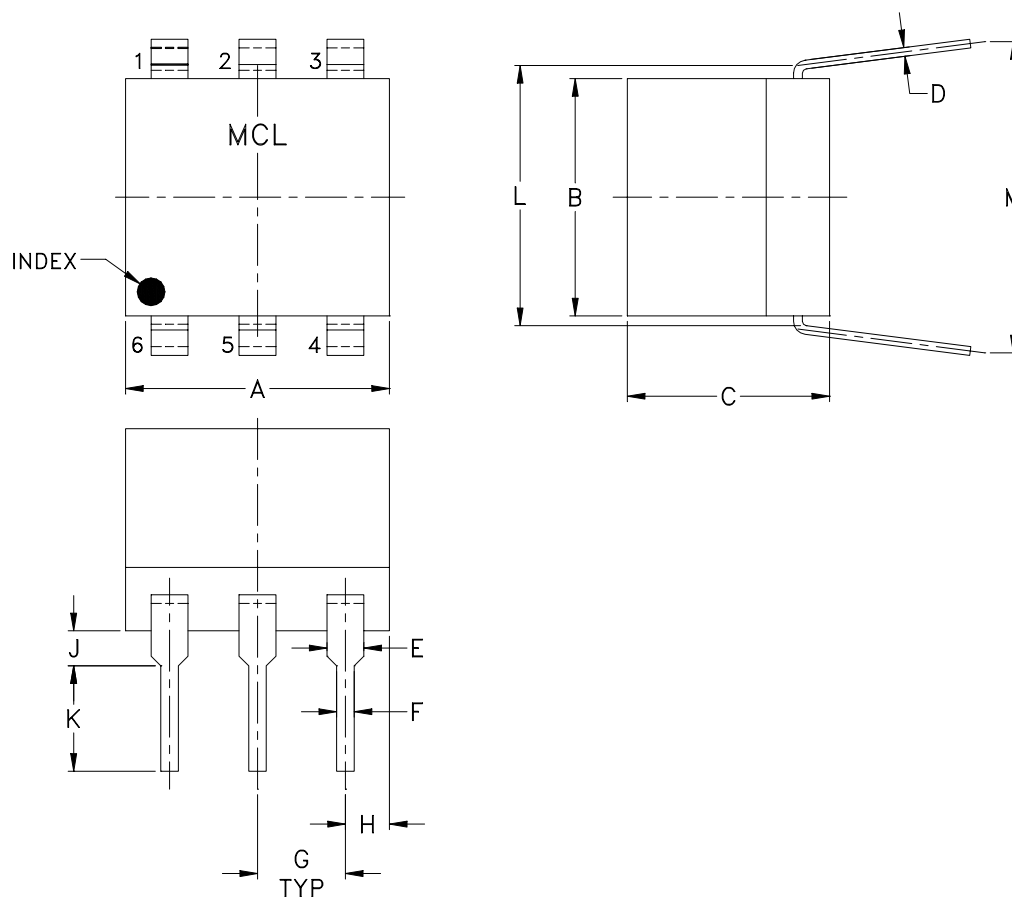
| FREQUENCY (MHz) | INSERTION LOSS (dB) | RETURN LOSS (dB) |
|--------------------|---------------------------|------------------------|
| 0.15 | 2.75 | 1.98 |
| 0.20 | 2.10 | 3.10 |
| 0.30 | 1.44 | 9.92 |
| 0.35 | 1.29 | 11.10 |
| 1.00 | 0.92 | 16.82 |
| 2.00 | 0.75 | 19.24 |
| 50.00 | 0.64 | 20.06 |
| 191.32 | 1.23 | 10.15 |
| 200.00 | 1.26 | 9.90 |
| 400.00 | 2.75 | 4.79 |

Typical Performance Curves



Outline Dimensions

X65



| CASE # | A | B | C | D | E | F | G | H | J | K | L | M | WT. GRAM |
|--------|---------------|---------------|---------------|----------------|----------------|----------------|----------------|---------------|---------------|---------------|----------------|---------------|----------|
| X65 | .30 (7.62) | .27 (6.86) | .23 (5.84) | .010 (0.25) | .042 (1.07) | .020 (0.51) | .100 (2.54) | .05 (1.27) | .04 (1.02) | .11 (2.79) | .300 (7.62) | .35 (8.89) | .50 |

Dimensions are in inches (mm)

Notes:

- Case material: Plastic.
Termination finish: For RoHS Case Styles: Tin Plate over Nickel Plate.
For RoHS-5 Case Styles: Tin-Lead Plate.



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Mini-Circuits ISO 9001 & ISO 14001 Certified



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 | -20° to 85°C Ambient Environment | Individual Model Data Sheet |
| Storage Temperature | -55° to 100° C 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 |
| 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, Para 4.2.5, Test S, 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 |
| Lead Integrity | 2 Pound Pull, perpendicular to edge of unit | MIL-STD-202, Method 211, 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 |