

Surface Mount RF Transformer

TCM2-33X-3+

50Ω

30 to 3000 MHz



CASE STYLE: DB1627

Maximum Ratings

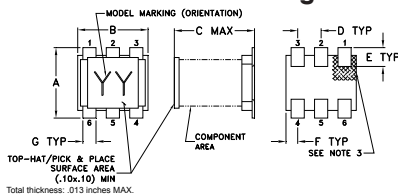
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 0.4W |
| DC Current | 30mA |

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

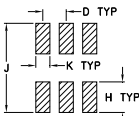
Pin Connections

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

Outline Drawing



PCB Land Pattern

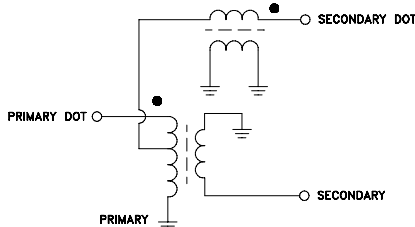


Suggested Layout,
Tolerance to be within .002

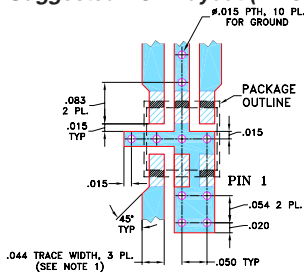
Outline Dimensions (inch)

| | A | B | C | D | E | F |
|--|------|------|------|------|-------|------|
| | .160 | .150 | .160 | .050 | .040 | |
| | 4.06 | 3.81 | 4.06 | 1.27 | 1.02 | 0.64 |
| | G | H | J | K | wt | |
| | .028 | .065 | .190 | .030 | grams | |
| | 0.71 | 1.65 | 4.83 | 0.76 | 0.15 | |

Config. N



Demo Board MCL P/N: TB-654+
Suggested PCB Layout (PL-364)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. ON EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

Notes

A. 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. 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

Features

- wide bandwidth 30 to 3000 MHz
- balanced transmission line
- excellent return loss
- aqueous washable
- protected by US Patent 8,576,037

Applications

- PCS
- wideband push-pull amplifiers
- cellular

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



Available Tape and Reel at no extra cost

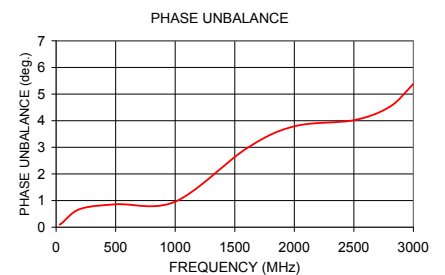
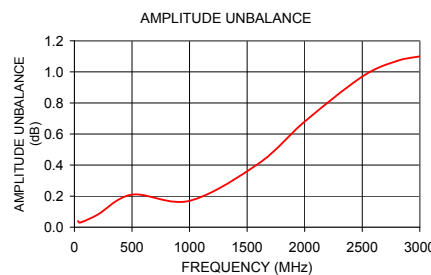
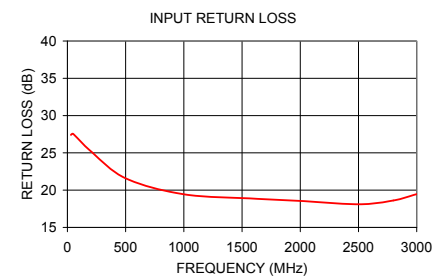
| Reel Size | Devices/Reel |
|-----------|-----------------------|
| 7" | 20, 50, 100, 200, 500 |
| 13" | 1000, 2000 |

Electrical Specifications at 25°C

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-------------------------------------|-----------------|------|------|------|--------|
| Impedance Ratio (secondary/primary) | | | 2 | | |
| Frequency Range | | 30 | — | 3000 | MHz |
| Insertion Loss | 30 - 3000 | — | 1.5 | 3.0 | dB |
| Amplitude Unbalance | 30 - 3000 | — | 0.5 | — | dB |
| Phase Unbalance | 30 - 3000 | — | 4 | — | Degree |

Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) | AMPLITUDE UNBALANCE (dB) | PHASE UNBALANCE (deg.) |
|-----------------|---------------------|--------------------|--------------------------|------------------------|
| 30 | 1.27 | 27.41 | 0.04 | 0.10 |
| 50 | 1.26 | 27.54 | 0.03 | 0.16 |
| 200 | 1.29 | 25.23 | 0.08 | 0.68 |
| 500 | 1.29 | 21.59 | 0.21 | 0.86 |
| 1000 | 1.35 | 19.44 | 0.17 | 0.96 |
| 1600 | 1.52 | 18.86 | 0.41 | 2.96 |
| 2000 | 1.67 | 18.55 | 0.68 | 3.79 |
| 2500 | 1.91 | 18.11 | 0.97 | 4.02 |
| 2800 | 2.02 | 18.61 | 1.07 | 4.52 |
| 3000 | 2.10 | 19.46 | 1.10 | 5.38 |



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REV. OR
M155572
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ED-14492/7
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