

Surface Mount RF Transformer

ADT1-1WT-1+

75Ω 1 to 400 MHz



CASE STYLE: CD542

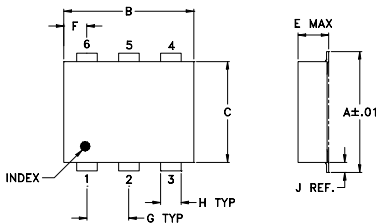
Maximum Ratings

| | |
|---|----------------|
| 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. | |

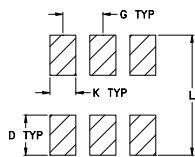
Pin Connections

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

Outline Drawing



PCB Land Pattern



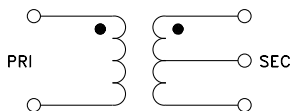
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

| | | | | | | |
|------|------|------|------|------|------|-------|
| A | B | C | D | E | F | G |
| .272 | .310 | .220 | .100 | .112 | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 2.84 | 1.40 | 2.54 |
| H | J | K | L | | | wt |
| .030 | .026 | .065 | .300 | | | grams |
| 0.76 | 0.66 | 1.65 | 7.62 | | | 0.20 |

Demo Board MCL P/N: TB-430

Config. A



Features

- 1dB bandwidth covers entire frequency range
- good return loss, 21 dB typ.
- leaded surface mount
- aqueous washable
- protected under US patent 6,133,525

Applications

- high speed data communications
- baluns

Transformer Electrical Specifications

| Ω RATIO | FREQUENCY (MHz) | INSERTION LOSS* | PHASE UNBALANCE (Deg.) Typ. | AMPLITUDE UNBALANCE (dB) Typ. | RETURN LOSS** (dB) | |
|---------|-----------------|-----------------|-----------------------------|-------------------------------|--------------------|----------------|
| | | | | | 1 dB MHz | 1 dB bandwidth |
| 1 | 1-400 | 1-400 | 5 | 0.7 | 21 | 16 |

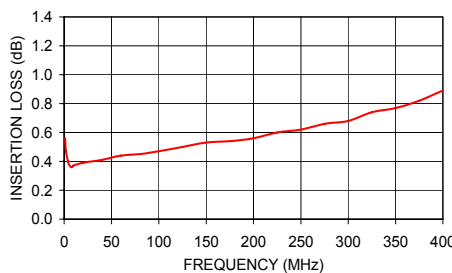
* Insertion Loss is referenced to mid-band loss, 0.5 dB typ.

** Return loss specified from 1 to 250 MHz

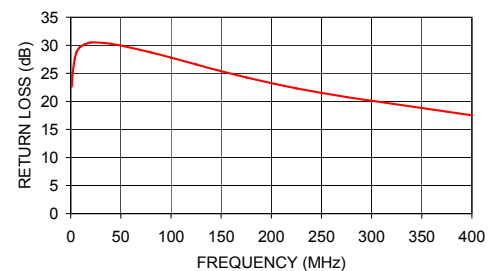
Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) | AMPLITUDE UNBALANCE (dB) | PHASE UNBALANCE (Deg.) |
|-----------------|---------------------|--------------------|--------------------------|------------------------|
| 1.00 | 0.56 | 22.65 | 0.05 | 0.28 |
| 2.00 | 0.47 | 25.12 | 0.03 | 0.16 |
| 4.00 | 0.40 | 27.64 | 0.02 | 0.08 |
| 6.00 | 0.37 | 28.83 | 0.02 | 0.03 |
| 8.00 | 0.36 | 29.44 | 0.01 | 0.02 |
| 10.00 | 0.37 | 29.80 | 0.01 | 0.01 |
| 20.00 | 0.39 | 30.47 | 0.01 | 0.29 |
| 40.00 | 0.41 | 30.27 | 0.00 | 0.56 |
| 60.00 | 0.44 | 29.55 | 0.02 | 0.83 |
| 80.00 | 0.45 | 28.73 | 0.03 | 1.18 |
| 100.00 | 0.47 | 27.78 | 0.07 | 1.44 |
| 125.00 | 0.50 | 26.57 | 0.11 | 1.84 |
| 150.00 | 0.53 | 25.39 | 0.17 | 2.23 |
| 175.00 | 0.54 | 24.26 | 0.22 | 2.63 |
| 200.00 | 0.56 | 23.23 | 0.29 | 3.04 |
| 225.00 | 0.60 | 22.30 | 0.37 | 3.40 |
| 250.00 | 0.62 | 21.50 | 0.45 | 3.72 |
| 275.00 | 0.66 | 20.78 | 0.54 | 4.20 |
| 300.00 | 0.68 | 20.11 | 0.65 | 4.57 |
| 325.00 | 0.74 | 19.48 | 0.76 | 4.98 |
| 350.00 | 0.77 | 18.81 | 0.87 | 5.34 |
| 375.00 | 0.82 | 18.16 | 1.01 | 5.66 |
| 400.00 | 0.89 | 17.52 | 1.16 | 5.96 |

INSERTION LOSS



INPUT RETURN LOSS



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.
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