

# Surface Mount RF Transformer

50Ω 0.5 to 600 MHz

## Maximum Ratings

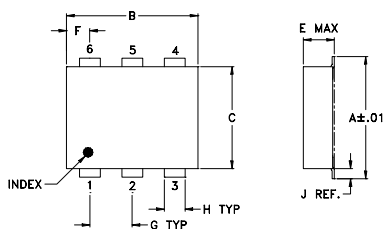
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -20°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power              | 0.5W           |
| DC Current            | 30mA           |

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

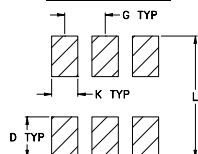
## Pin Connections

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

## Outline Drawing



### PCB Land Pattern



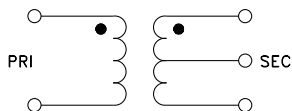
Suggested Layout,  
Tolerance to be within ±.002

## Outline Dimensions (inch)

| A    | B    | C    | D    | E     | F    | G    |
|------|------|------|------|-------|------|------|
| .272 | .310 | .220 | .100 | .162  | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 4.11  | 1.40 | 2.54 |
| H    | J    | K    | L    | wt    |      |      |
| .030 | .026 | .065 | .300 | grams |      |      |
| 0.76 | 0.66 | 1.65 | 7.62 | 0.25  |      |      |

Demo Board MCL P/N: TB-430+

## Config. A



## Features

- excellent amplitude unbalance, 0.1 dB typ. and phase unbalance, 1 deg typ. 1 dB bandwidth
- excellent return loss, 20 dB typ. in 1 dB bandwidth
- aqueous washable
- protected under US patent 6,133,525

## Applications

- impedance matching
- balanced amplifiers

ADT4-6WT+



Generic photo used for illustration purposes only

CASE STYLE: CD636

+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 |
| 13"       | 500, 1000        |

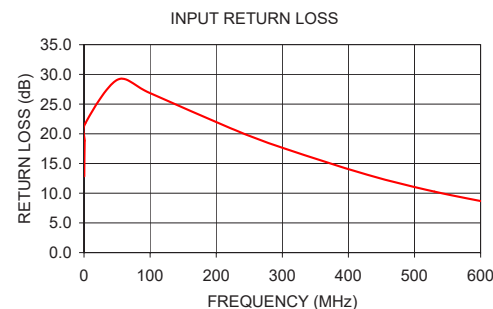
## Transformer Electrical Specifications

| Ω<br>RATIO<br>(Secondary/Primary) | FREQUENCY<br>(MHz) | INSERTION LOSS* |          |          | PHASE UNBALANCE (Deg.) Typ. |                | AMPLITUDE UNBALANCE (dB) Typ. |                |
|-----------------------------------|--------------------|-----------------|----------|----------|-----------------------------|----------------|-------------------------------|----------------|
|                                   |                    | 3 dB MHz        | 2 dB MHz | 1 dB MHz | 1 dB bandwidth              | 2 dB bandwidth | 1 dB bandwidth                | 2 dB bandwidth |
| 4                                 | 0.5-600            | 0.5-600         | 0.7-475  | 2-300    | 1                           | 2              | 0.1                           | 0.2            |

\* Insertion Loss is referenced to mid-band loss, 0.4 dB typ.

## Typical Performance Data

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) | AMPLITUDE UNBALANCE (dB) | PHASE UNBALANCE (Deg.) |
|-----------------|---------------------|--------------------|--------------------------|------------------------|
| 0.35            | 0.95                | 12.84              | 0.07                     | 0.01                   |
| 1.00            | 0.79                | 18.82              | 0.07                     | 0.00                   |
| 2.00            | 0.66                | 21.76              | 0.06                     | 0.02                   |
| 51.00           | 0.52                | 29.12              | 0.06                     | 0.06                   |
| 100.00          | 0.60                | 26.84              | 0.08                     | 0.01                   |
| 224.00          | 0.76                | 20.84              | 0.16                     | 0.30                   |
| 300.00          | 0.90                | 17.65              | 0.24                     | 0.68                   |
| 428.00          | 1.20                | 13.13              | 0.38                     | 2.63                   |
| 530.00          | 1.59                | 10.27              | 0.48                     | 5.92                   |
| 632.00          | 2.16                | 7.99               | 0.59                     | 12.04                  |



### 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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