



SURFACE MOUNT



# RF Transformer

## TC1-1X+

50Ω 1.5 to 500 MHz

### FEATURES

- Usable over 0.4-500 MHz
- Excellent amplitude unbalance, 0.1 dB typ. and phase unbalance, 2 deg typ. in 1 dB bandwidth
- Good return loss
- Plastic base with leads
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: AT1521

**+RoHS Compliant**

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

### APPLICATIONS

- Balanced to unbalanced transformation
- Push-pull amplifiers

### ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter       | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-----------------|-----------------|------|------|------|------|
| Impedance Ratio |                 |      | 1    |      | Ohm  |
| Frequency Range |                 | 1.5  |      | 500  | MHz  |
| Insertion Loss* | 1.5 - 500       |      | 3.0  |      | dB   |
|                 | 2.5 - 400       |      | 2.0  |      |      |
|                 | 5 - 350         |      | 1.0  |      |      |

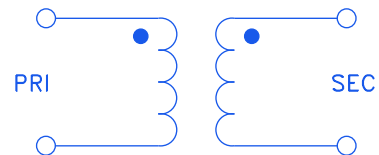
\* Insertion Loss is referenced to mid-band loss, 0.6 dB typ.

### MAXIMUM RATINGS

| Parameter             | Ratings        |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°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.

### CONFIG. C



REV. C  
ECO-021735  
TC1-1X+  
MCL NY  
240506





top hat

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## TC1-1X+

Mini-Circuits

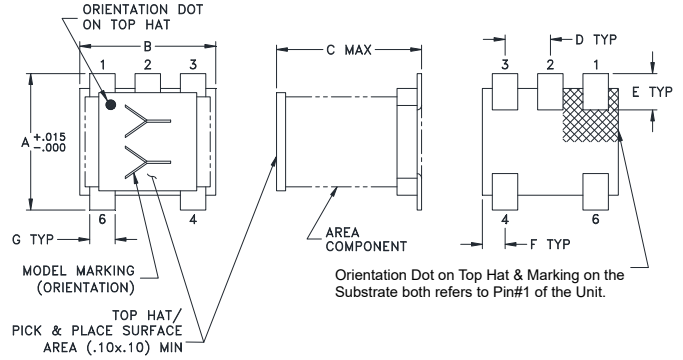
50Ω 1.5 to 500 MHz

### PIN CONNECTIONS

| Function      | Pin Number |
|---------------|------------|
| PRIMARY DOT   | 6          |
| PRIMARY       | 4          |
| SECONDARY DOT | 1          |
| SECONDARY     | 3          |
| NOT USED      | 2          |

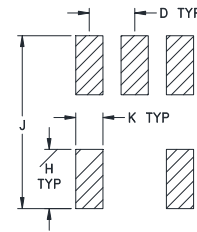
**PRODUCT MARKING:** CQ

### OUTLINE DRAWING



Top-hat total thickness: .013 inches MAX.

### PCB Land Pattern



Suggested Layout,  
Tolerance to be within  $\pm 0.002$

### OUTLINE DIMENSIONS (Inch/mm)

| A    | B    | C    | D    | E    | F    | G    | H    | J    | K    |
|------|------|------|------|------|------|------|------|------|------|
| .150 | .150 | .160 | .050 | .040 | .025 | .028 | .065 | .190 | .030 |
| 3.81 | 3.81 | 4.06 | 1.27 | 1.02 | 0.64 | 0.71 | 1.65 | 4.83 | 0.76 |

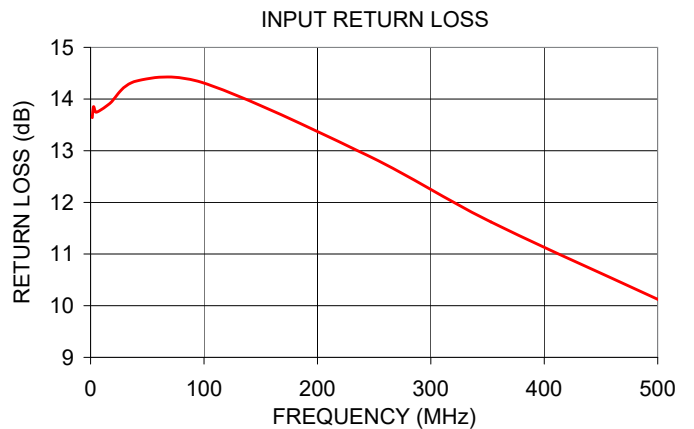
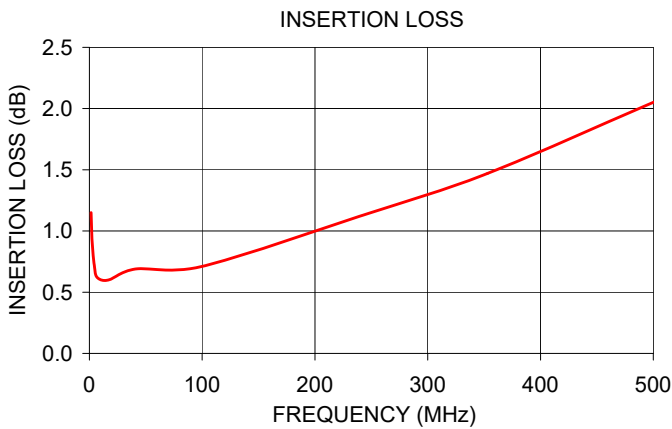
Weight: 0.15 grams

### TAPE & REEL INFORMATION: F17



### TYPICAL PERFORMANCE DATA

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|-----------------|---------------------|--------------------|
| 1.51            | 1.15                | 13.64              |
| 2.49            | 0.91                | 13.85              |
| 4.35            | 0.72                | 13.75              |
| 6.87            | 0.62                | 13.76              |
| 16.75           | 0.60                | 13.91              |
| 40.86           | 0.69                | 14.35              |
| 99.67           | 0.71                | 14.31              |
| 243.10          | 1.13                | 12.92              |
| 353.08          | 1.47                | 11.62              |
| 502.30          | 2.06                | 10.10              |



#### 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.
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