



### FEATURES

- Excellent amplitude unbalance (0.3 dB typ) and phase unbalance (5 deg. typ) in 1 dB bandwidth
- Plastic base with leads
- Good return loss
- 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

- Impedance matching
- Balanced antennas

### ELECTRICAL SPECIFICATIONS AT 25°C

| Parameter                           | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-------------------------------------|-----------------|------|------|------|------|
| Impedance Ratio (secondary/primary) |                 |      | 3    |      |      |
| Frequency Range                     |                 | 5    |      | 300  | MHz  |
| Insertion Loss*                     | —               |      | 3    |      | dB   |
|                                     | —               |      | 2    |      |      |
|                                     | 5-300           |      | 1    |      |      |

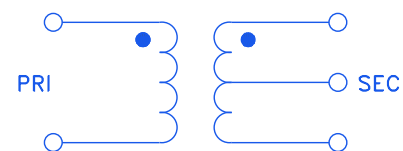
\* Insertion Loss is referenced to mid-band loss, 0.4 dB typ.

### MAXIMUM RATINGS

| Parameter             | Ratings        |
|-----------------------|----------------|
| Operating Temperature | -20°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. A





**SURFACE MOUNT** top hat  
**RF Transformer**

**TC3-1TX+**

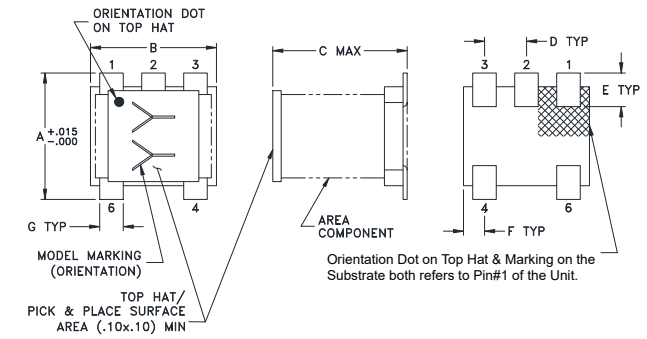
50Ω 5 to 300 MHz

**PIN CONNECTIONS**

|               |   |
|---------------|---|
| PRIMARY DOT   | 6 |
| PRIMARY       | 4 |
| SECONDARY DOT | 1 |
| SECONDARY     | 3 |
| SECONDARY CT  | 2 |

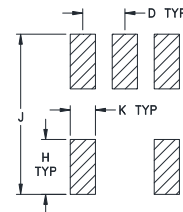
**PRODUCT MARKING:** CH

**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 |

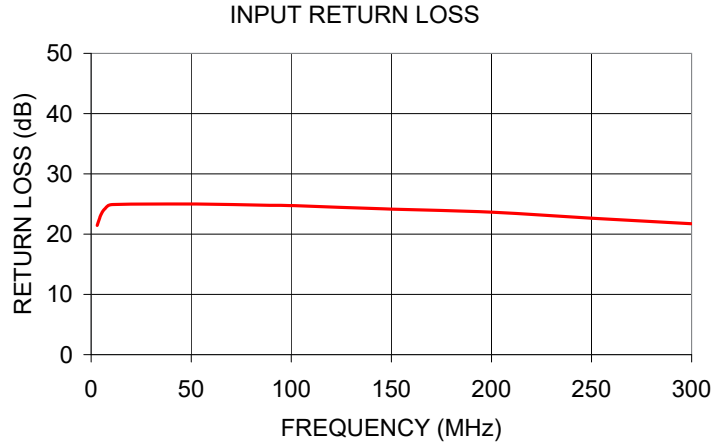
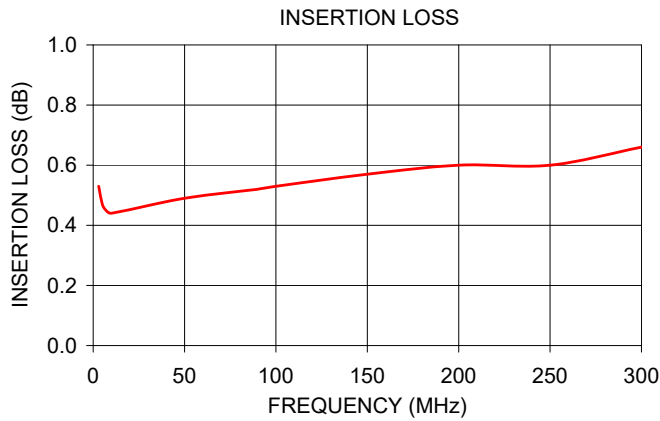
Weight: 0.15 grams

**TAPE & REEL INFORMATION: F17**



### TYPICAL PERFORMANCE DATA

| FREQUENCY (MHz) | INSERTION LOSS (dB) | INPUT R. LOSS (dB) |
|-----------------|---------------------|--------------------|
| 3.00            | 0.53                | 21.45              |
| 7.00            | 0.45                | 24.23              |
| 10.00           | 0.44                | 24.89              |
| 50.00           | 0.49                | 24.99              |
| 90.00           | 0.52                | 24.79              |
| 100.00          | 0.53                | 24.74              |
| 150.00          | 0.57                | 24.15              |
| 200.00          | 0.60                | 23.65              |
| 250.00          | 0.60                | 22.64              |
| 300.00          | 0.66                | 21.73              |



#### 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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)