



SURFACE MOUNT

# RF Transformer

## ADT16-6+

Mini-Circuits

50Ω

0.25 to 105 MHz

### FEATURES

- Excellent amplitude unbalance, 0.1 dB typ. and phase unbalance, 3 deg. typ. in 1 dB bandwidth
- Aqueous washable
- Protected under US patent 6,133,525



Generic photo used for illustration purposes only

CASE STYLE: CD636

### +RoHS Compliant

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

### APPLICATIONS

- Impedance matching
- Balanced amplifier

### ELECTRICAL SPECIFICATIONS AT 25°C

| Parameter                           | Frequency (MHz) | Min. | Typ. | Max. | Units  |
|-------------------------------------|-----------------|------|------|------|--------|
| Impedance Ratio (Secondary/Primary) |                 |      | 16   |      |        |
| Frequency Range                     |                 | 0.25 |      | 105  | MHz    |
| Insertion Loss*                     | 0.25-105        | —    | 3    | —    | dB     |
|                                     | 0.45-75         | —    | 2    | —    |        |
|                                     | 1-40            | —    | 1    | —    |        |
| Amplitude Unbalance                 | 1-40            | —    | 0.1  | —    | dB     |
|                                     | 0.45-75         | —    | 0.2  | —    |        |
| Phase Unbalance                     | 1-40            | —    | 2    | —    | Degree |
|                                     | 0.45-75         | —    | 5    | —    |        |

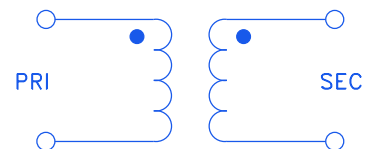
\* Insertion Loss is referenced to mid-band loss, 0.5 dB typ.

### MAXIMUM RATINGS

| Parameter             | 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.

### CONFIGURATION C





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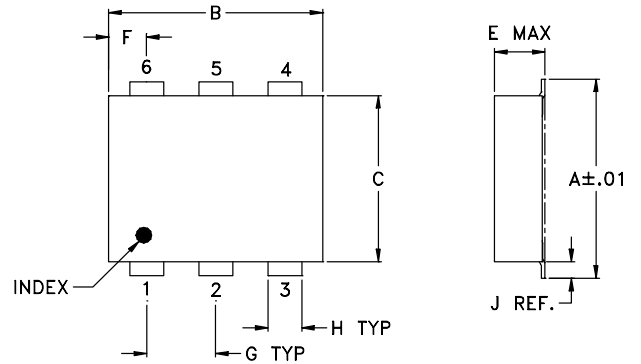
### PIN CONNECTIONS

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

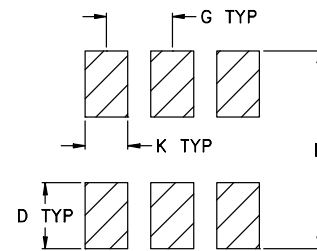
**PRODUCT MARKING:** N/A

**DEMOBOARD MCL P/N:** TB-430

### OUTLINE DRAWING



### PBC Land Pattern

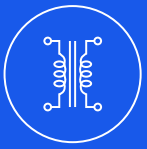


**Suggested Layout,**  
Tolerance to be within  $\pm 0.02$

### OUTLINE DIMENSIONS (Inches/mm)

| 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  |

**TAPE & REEL INFORMATION:** F34



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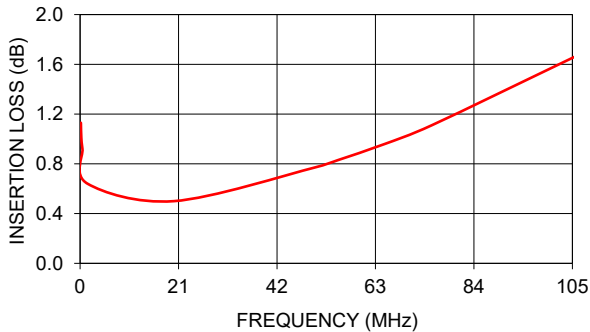
50Ω

0.25 to 105 MHz

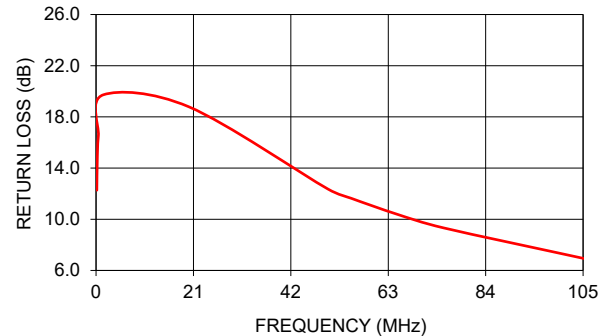
### TYPICAL PERFORMANCE DATA

| Frequency (MHz) | Insertion Loss (dB) | Return Loss (dB) | Amplitude Unbalance (dB) | Phase Unbalance (deg) |
|-----------------|---------------------|------------------|--------------------------|-----------------------|
| 0.17            | 1.13                | 12.27            | 0.01                     | 0.03                  |
| 0.26            | 1.01                | 14.51            | 0.01                     | 0.03                  |
| 0.50            | 0.92                | 16.52            | 0.01                     | 0.06                  |
| 1.60            | 0.64                | 19.73            | 0.01                     | 0.18                  |
| 20.00           | 0.50                | 18.79            | 0.02                     | 2.32                  |
| 50.00           | 0.77                | 12.36            | 0.12                     | 4.94                  |
| 55.00           | 0.83                | 11.64            | 0.13                     | 5.27                  |
| 65.00           | 0.96                | 10.38            | 0.15                     | 5.75                  |
| 75.00           | 1.11                | 9.32             | 0.15                     | 6.13                  |
| 106.00          | 1.67                | 6.87             | 0.01                     | 6.64                  |

ADT16-6+  
INSERTION LOSS



ADT16-6+  
INPUT RETURN LOSS



#### 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)

