

# Surface Mount RF Transformer

50Ω 1.5 to 500 MHz

**TCM1-1X+**  
**Upgraded Version\***

- \*Addition of Top-hat® feature
- Benefits
  - Allows faster pick-and-place
  - Enables visual identification marking

**TCM1-1+**



Generic photo used for illustration purposes only

CASE STYLE: DB714

**+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, 500
13"	1000, 2000

## Features

- excellent amplitude unbalance. 0.2 dB typ.
- excellent phase unbalance, 4 deg. typ. in 1 dB bandwidth
- plastic base with solder plated leads
- aqueous washable

## Applications

- impedance matching
- balanced to unbalanced transformation
- push-pull amplifier

## Electrical Specifications

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio			1		Ohm
Frequency Range		1.5		500	MHz
Insertion Loss*	1.5 - 500		3		dB
	2.5 - 400		2		
	5 - 350		1		

\* Insertion Loss is referenced to mid-band loss, 0.9 dB typ.

## Maximum Ratings

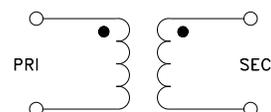
Parameter	Ratings
Operating Temperature	-20°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

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

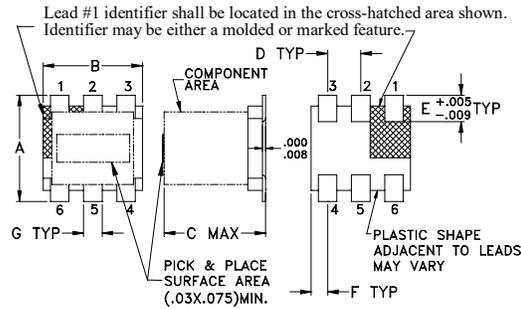
## Pin Connections

Function	Pin Number
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
NOT USED	2,5

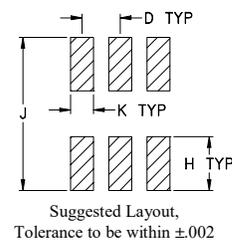
## Config. C



## Outline Drawing



## PCB Land Pattern

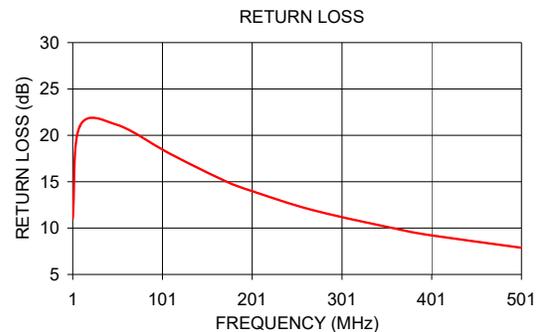


## Outline Dimensions (inch/mm)

A	B	C	D	E	F
.160	.150	.160	.050	.040	.025
4.06	3.81	4.06	1.27	1.02	0.64
G	H	J	K	wt	
.028	.065	.190	.030	grams	
0.71	1.65	4.83	0.76	0.15	

## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)
1.00	1.93	11.00
8.80	0.88	20.96
50.00	0.99	21.15
110.00	1.15	17.98
170.00	1.29	15.11
200.00	1.40	14.01
270.00	1.59	11.90
369.00	1.95	9.77
402.00	2.04	9.20
501.00	2.38	7.88



### Additional 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.
- 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)