Surface Mount RF Transformer

TC1-1-13MA+

4.5 to 3000 MHz

Features

- wideband, 4.5 to 3000 MHz
- balanced transmission line
- · good return loss
- excellent amplitude unbalance, 0.5 dB typ. and phase unbalance, 2 deg typ. in 1 dB bandwidth
- · plastic base with leads
- aqueous washable

Applications

- balanced to unbalanced transformation
- · push-pull amplifiers
- PCS/DCS
- MMDS



Generic photo used for illustration purposes only

CASE STYLE: AT224-1A

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications



Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Тур.	Max.	Unit
Impedance Ratio			1		Ohm
Frequency Range		4.5		3000	MHz
	2000-3000		3		
Insertion Loss*	1000-2000		2		dB
	4.5-1000		1		
Dhara Habalana	4.5-1000		2		Deg.
Phase Unbalance	1000-2000		3		
Ammittude Habelenee	4.5-1000		0.5		dB
Amplitude Unbalance	1000-2000		0.5		

 $^{^{\}star} \text{Insertion Loss}$ is referenced to mid-band loss, 0.5 dB typ.

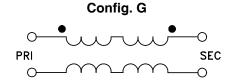
Maximum Ratings

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Parameter	Ratings		
Operating Temperature	-40°C to 85°C		
Storage Temperature	-55°C to 100°C		
RF Power	0.25W		
DC Current	30mA		

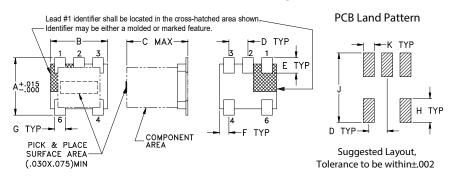
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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



Outline Drawing

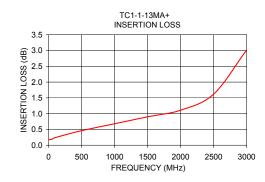


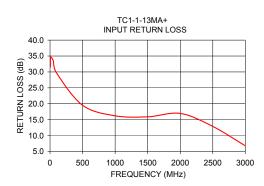
Outline Dimensions (inch)

F . 025 0.64	E . 040 1.02	D . 050 1.27	C .160 4.06	B . 150 3.81	A . 150 3.81
wt grams		.030	J .190	H .065	G .028
0.15		0.76	4 83	1.65	0.71

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)	
4.50	0.18	31.52	0.69	3.81	
10.00	0.18	34.60	0.56	1.78	
50.00	0.19	33.50	0.56	0.11	
100.00	0.24	29.68	0.55	0.19	
500.00	0.46	19.52	0.45	0.81	
1000.00	0.68	16.22	0.14	1.59	
1500.00	0.90	15.89	0.29	0.89	
2000.00	1.11	16.97	0.71	1.28	
2500.00	1.62	12.88	0.78	5.79	
3000.00	3.02	6.79	0.49	12.32	





Additional 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/MCLStore/terms.jsp