

# Surface Mount RF Transformer

## TC1-1-13MG2+

50Ω 4.5 to 3000 MHz

### Maximum Ratings

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

### Pin Connections

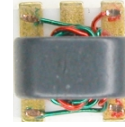
PRIMARY DOT	6
PRIMARY	4
SECONDARY DOT	1
SECONDARY	3
NOT USED	2

### Features

- wideband, 4.5 to 3000 MHz
- balanced transmission line
- leadless surface mount
- good return loss
- excellent amplitude unbalance, 0.5 dB typ and phase unbalance, 2 deg typ. in 1 dB bandwidth
- aqueous washable

### Applications

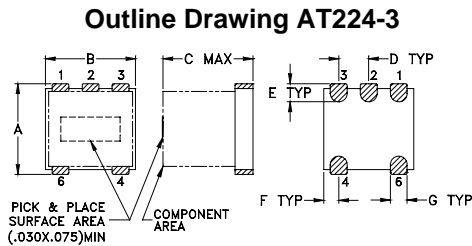
- balanced to unbalanced transformation
- push-pull amplifiers
- PCS/DCS
- MMDS



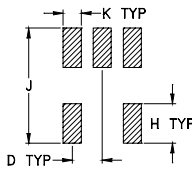
CASE STYLE: AT224-3  
PRICE: \$1.19 ea. QTY (100)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

*The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.*



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F
.150	.150	.150	.050	.030	.025
3.81	3.81	3.81	1.27	0.76	0.64
G	H	J	K		wt
.028	.065	.190	.030		grams
0.71	1.65	4.83	0.76		0.10

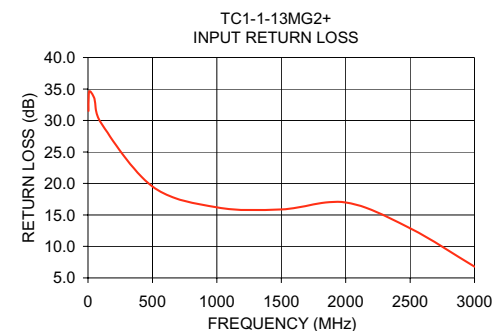
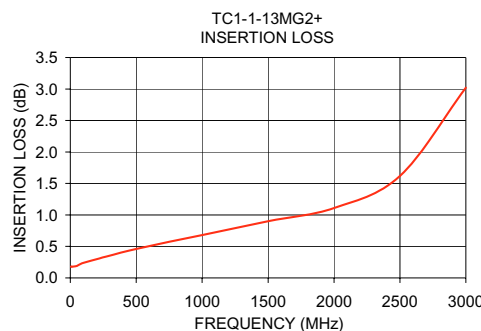
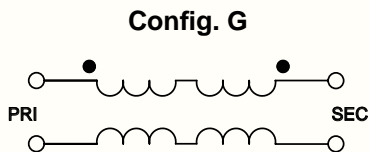
### Transformer Electrical Specifications

Ω RATIO	FREQUENCY (MHz)	INSERTION LOSS*			PHASE UNBALANCE (Deg.) Typ.		AMPLITUDE UNBALANCE (dB) Typ.	
		3 dB MHz	2 dB MHz	1 dB MHz	1 dB bandwidth	2 dB bandwidth	1 dB bandwidth	2 dB bandwidth
1	4.5-3000	2000-3000	1000-2000	4.5-1000	2	3	0.5	0.5

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

### 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



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RF/IF MICROWAVE COMPONENTS

REV. A  
M111888  
TC1-1-13MG2+  
ED-11376/1  
IG/TD/CP  
080211