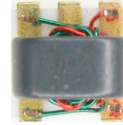


Surface Mount RF Transformer

TC1-1-13MG2+

50Ω 4.5 to 3000 MHz



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.

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

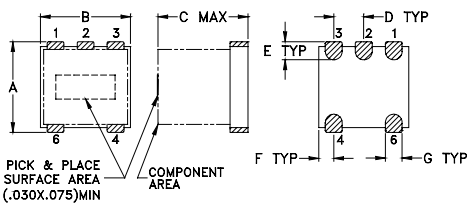
- balanced to unbalanced transformation
- push-pull amplifiers
- PCS/DCS
- MMDS

Transformer Electrical Specifications

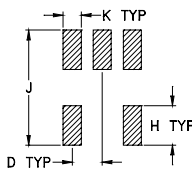
Ω RATIO	FREQUENCY (MHz)	INSERTION LOSS*			PHASE UNBALANCE (Deg.) Typ.		AMPLITUDE UNBALANCE (dB) Typ.	
		3 dB MHz	2 dB MHz	1 dB MHz	1 dB bandwidth	2 dB bandwidth	1 dB bandwidth	2 dB bandwidth
1	4.5-3000	2000-3000	1000-2000	4.5-1000	2	3	0.5	0.5

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

Outline Drawing AT224-3



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

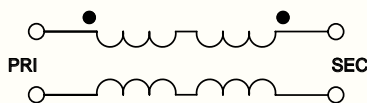
Outline Dimensions (inch/mm)

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

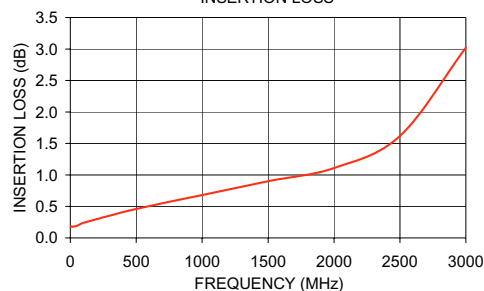
Typical Performance Data

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

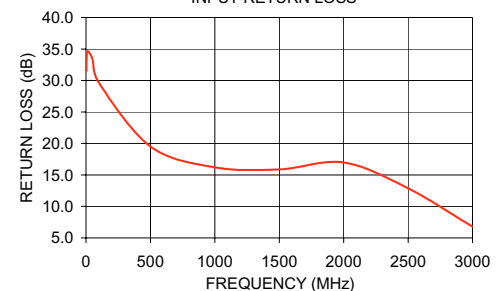
Config. G



TC1-1-13MG2+
INSERTION LOSS



TC1-1-13MG2+
INPUT RETURN LOSS



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