

Surface Mount RF Transformer

TC1-33-75-7+

75Ω 5 to 3000 MHz



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

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500
13"	1000, 2000

Maximum Ratings

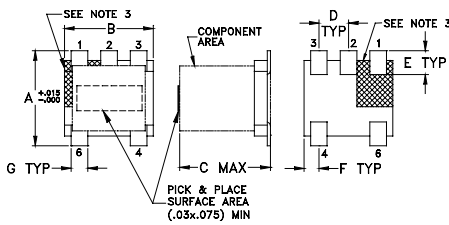
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.25W
DC Current	30mA

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

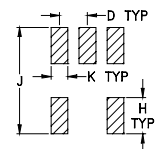
Pin Connections

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

Outline Drawing AT224-1A



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch/mm)

A	B	C	D	E	F
.150	.150	.160	.050	.040	.025
3.81	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	

Features

- suitable for tin/lead and RoHS solder systems
- wideband, 5 to 3000 MHz
- balanced transmission line
- good return loss, 20 dB typ. at 1 dB band
- excellent amplitude unbalance, 0.3 dB typ. and phase unbalance, 3 deg typ. in 1 dB bandwidth
- aqueous washable

Applications

- balanced to unbalanced transformation
- push-pull amplifiers
- PCS/DCS
- cable TV
- cellular

Qorvo Part No.	Description
QPL8830	5-1280 MHz, 75Ω, 21 dB CATV Amplifier
QPL8831	5-1280 MHz, 75Ω, 17 dB CATV Amplifier
QPL8832	5-1280 MHz, 75Ω, 19 dB CATV Amplifier
QPL8833	5-1280 MHz, 75Ω, 15 dB CATV Amplifier
QPL8834	5-1280 MHz, 75Ω, 12 dB CATV Amplifier
QPA4425	1218 MHz MMIC, CATV Push Pull, 25 dB Amplifier
QPA4428	1219 MHz MMIC, CATV Push Pull, 28 dB Amplifier
QPB8857	47 - 1218 MHz, 28 dB CATV Doupler Amplifier
QPB8858	47-1218, 34 dB CATV Push Pull Amplifier
QPB8957	47-1000 MHz 28 dB CATV Doupler Amplifier

Transformer Electrical Specifications (T_{AMB} = 25°C)

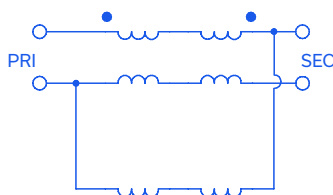
Ω RATIO	FREQUENCY (MHz)	INSERTION LOSS*			PHASE UNBALANCE (Deg.) Typ.		AMPLITUDE UNBALANCE (dB) Typ.	
		3 dB MHz	2 dB MHz	1 dB MHz	1 dB bandwidth	2 dB bandwidth	1 dB bandwidth	2 dB bandwidth
1	5-3000	2000-3000	1200-2000	5-1200	3	4	0.3	1.0

*Insertion Loss is referenced to mid-band loss, 1.0 dB typ.

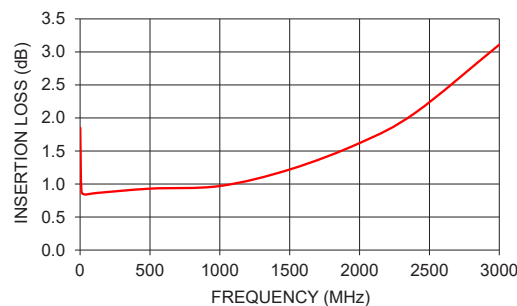
Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	INPUT R. LOSS (dB)	AMPLITUDE UNBALANCE (dB)	PHASE UNBALANCE (Deg.)
1.00	1.85	10.86	0.38	2.91
10.00	0.88	20.01	0.04	0.84
40.00	0.84	21.37	0.00	0.58
100.00	0.86	21.90	0.01	0.92
500.00	0.93	26.20	0.10	3.63
1000.00	0.97	19.72	0.18	4.76
1500.00	1.22	15.43	0.77	3.62
2000.00	1.62	13.94	1.40	0.56
2400.00	2.08	12.54	1.84	4.10
3000.00	3.11	9.59	2.06	12.70

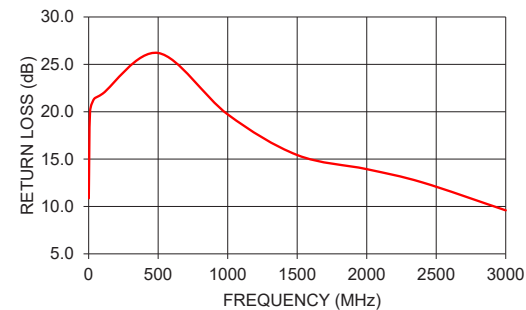
Config. K



TC1-33-75-7+
INSERTION LOSS



TC1-33-75-7+
INPUT RETURN LOSS



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/WCLStore/terms.jsp



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