

# Surface Mount RF Transformer

## TCM3-452X-1+

50Ω

20 to 4000 MHz



Generic photo used for illustration purposes only

CASE STYLE: DB1627

**+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

- wide bandwidth 20 to 4000 MHz
- balanced transmission line
- good return loss
- aqueous washable

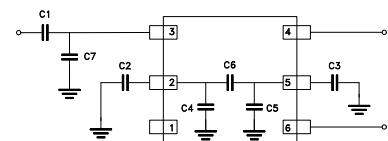
### Applications

- PCS
- wideband push-pull amplifiers
- cellular

### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (secondary/primary)			2		
Frequency Range		20	—	4000	MHz
Insertion Loss	20 - 4000	—	1.5	2.5	dB
Amplitude Unbalance	20 - 4000	—	0.5	—	dB
Phase Unbalance	20 - 4000	—	10	—	Degree

### Electrical Schematic



C1, C2, C3: 5600 PF  
C4, C5, C6: 1000 PF  
C7: 0.25 PF  
C1-C7: EXTERNAL

### Maximum Ratings

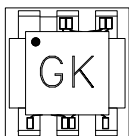
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.4W
DC Current	30mA

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

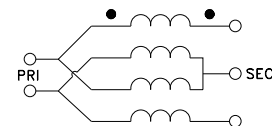
### Pin Connections

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

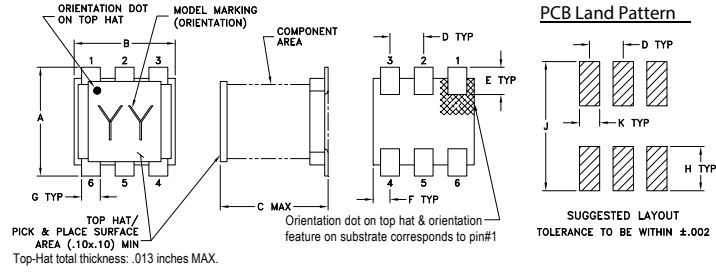
### Product Marking



### Config. H



## Outline Drawing



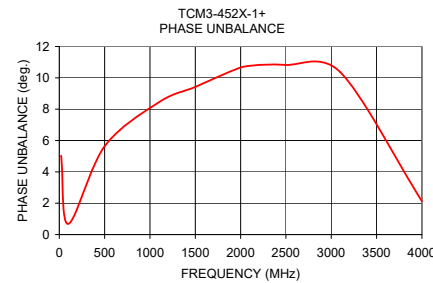
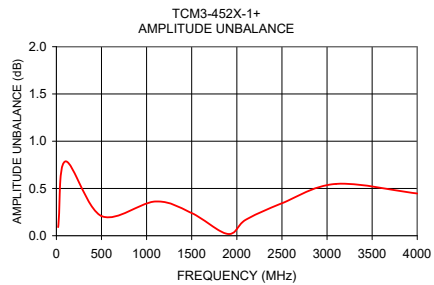
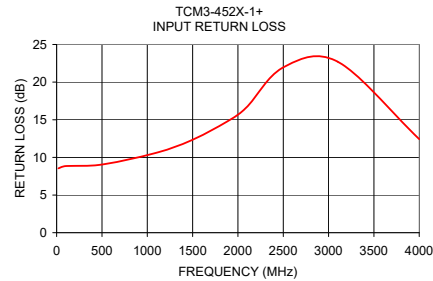
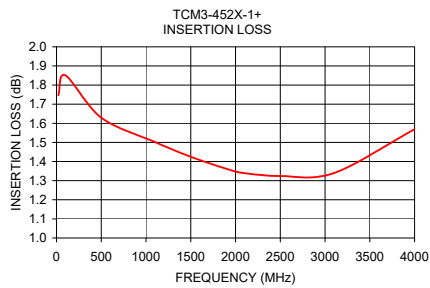
## Outline Dimensions (inch)

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)	Amplitude Unbalance (dB)	Phase Unbalance (Deg.)
20.0	1.75	8.54	0.09	5.03
100.0	1.85	8.85	0.79	0.68
500.0	1.63	9.05	0.21	5.63
1100.0	1.50	10.61	0.36	8.44
1500.0	1.42	12.35	0.24	9.42
1900.0	1.36	14.90	0.02	10.43
2100.0	1.34	16.71	0.17	10.77
2500.0	1.32	21.96	0.34	10.82
3100.0	1.34	22.72	0.55	10.36
4000.0	1.57	12.43	0.45	2.13

\* Note: 0.25 PF capacitor is suggested to be added at primary to ground to improve return loss.



## 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.
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