

Surface Mount ^{top hat}
RF Transformer

TCM3-452X+

50Ω

20 to 4500 MHz

The Big Deal

- Low insertion loss, 1.5 dB typ.
- Low unbalance, 0.2 dB, 2°
- Power handling up to 0.4W



CASE STYLE: DB1627

Product Overview

Mini-Circuits TCM3-452X+ is a 50Ω surface mount balanced transmission line transformer with a 3:1 secondary/primary impedance ratio covering the 20 to 4500 MHz band. This model handles RF input power up to 0.4W and provides low insertion loss, good return loss, and low amplitude unbalance. Measuring only 0.16 x 0.15 x 0.16", the unit features core and wire, all-welded construction mounted on a six-lead plastic base. The unit also includes Mini-Circuits' Top Hat® feature for faster, more accurate pick-and-place assembly.

Key Features

Feature	Advantages
Wideband, 20 to 4500 MHz	Supports a variety of applications including PCS, SatCom and more.
Power Handling up to 0.4W	Supports a variety of RF input power requirements.
Low insertion loss, 1.5 dB	Enables excellent signal power transmission from input to output.
Low unbalance <ul style="list-style-type: none">• 0.5 dB amplitude unbalance• 4° phase unbalance	Produces nearly equal output signals, ideal for parallel path / multichannel systems.
Small footprint, 0.16 x 0.15"	Accommodates tight space requirements for dense PCB layouts.
Top Hat® feature	Improves speed and accuracy of pick and place assembly and provides clear device marking for visual inspection

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Generic photo used for illustration purposes only

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+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 4500 MHz
- balanced transmission line
- good return loss
- aqueous washable

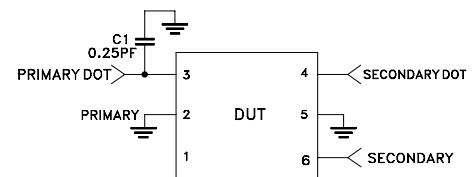
Applications

- PCS
- wideband push-pull amplifiers
- cellular

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Impedance Ratio (secondary/primary)			3		
Frequency Range		20	—	4500	MHz
Insertion Loss	20 - 4500	—	1.5	3.0	dB
Amplitude Unbalance	20 - 4500	—	0.5	—	dB
Phase Unbalance	20 - 4500	—	4	—	Degree

Electrical Schematic



Maximum Ratings

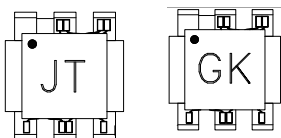
Parameter	Ratings
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	0.4W
DC Current	30mA

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

Internal Optional Product Marking



Config. H

