

# Keysight TC676

## 110 GHz Double Balanced Mixer

1GG5-8045

Data Sheet



### Features

- Frequency Range:
  - 0-50 GHz LO
  - 0-110 GHz RF
  - 0-100 MHz IF
- Conversion Loss:
  - 14 dB typical N=1
  - 28 dB typical N=3

## Introduction

The TC676 is a broadband diode ring mixer that can be operated in fundamental and harmonic mixing modes. The mixer is double balanced when operated with external LO and IF baluns. The TC676 is fabricated in the MB6A low-barrier integrated diode process at WPTC. Beam leads allow the device to be mounted directly on a thin-film circuit.

## Absolute Maximum Ratings<sup>1</sup>

Symbol	Parameters/Conditions	Min.	Max.	Units
$P_{in}$	RF Input Power, any Port		18	dBm
$T_{op}$	Operating Temperature	-55	+100	°C
$T_{st}$	Storage Temperature	-65	+150	°C
$T_{max}$	Assembly Temperature		+200	°C
ESD	Electrostatic Discharge (Human Body Model)	-600	600	Volts

### Notes:

1. Operation in excess of any one of these may result in permanent damage to this device.  
 $T_A = 25^\circ\text{C}$  for ESD.  $T_A = 55^\circ\text{C}$  for  $P_{IN}$ .

Chip Size:

836 x 977  $\mu\text{m}$  (32.9 x 38.5 mils)

Chip Size Tolerance:

$\pm 10 \mu\text{m}$  ( $\pm 0.4$  mils)

Chip Thickness:

$58 \pm 15 \mu\text{m}$  ( $2.3 \pm 0.6$  mils)

Lead Dimensions:

RF: 130 x 75  $\mu\text{m}$  (5.1 x 3.0 mils)

GND:

130 x 120  $\mu\text{m}$  (5.1 x 4.7 mils)

LO:

130 x 80  $\mu\text{m}$  (5.1 x 3.1 mils)

IF:

130 x 80  $\mu\text{m}$  (5.1 x 3.1 mils)



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