

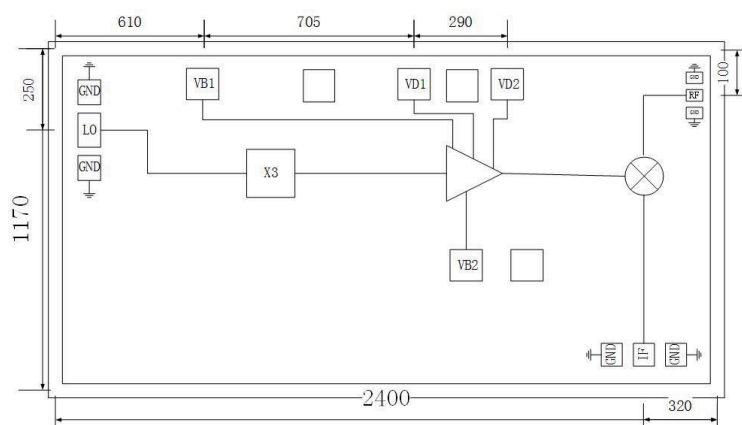
General Description

MWM005 is a passive double-balanced mixer designed and manufactured by GaAs pHEMT process, which integrates frequency doubling scheme. This product can achieve RF 76-96 GHz band up-conversion or down-conversion function. No additional off-chip components and power supply modules are required to achieve excellent isolation performance through the role of on-chip Balun. It can be widely used in point-to-point communication systems and other fields.

Features

LO-RF Isolation: 47 dB
 Conversion Loss: 9dB
 IF Bandwidth: DC-12.5 GHz
 Chip Size: 2.40 x 1.17 x 0.05 mm

Functional Diagram (bond : 50x35, unit : um)



(Die Thickness: 50 um)

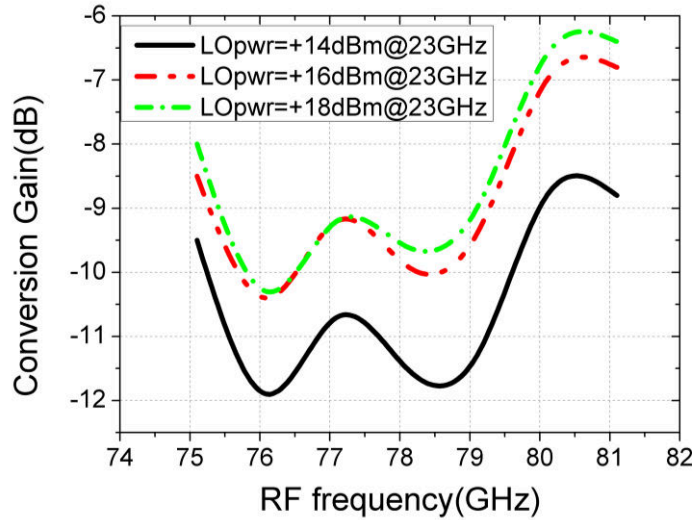
Electrical Specification, $T_A = +25^\circ\text{C}$, PLO = +16dBm

Parameter	Min	Typ	Max	Units
RF Bandwidth	76-96			GHz
LO Bandwidth	23-28			GHz
IF Bandwidth	DC-12.5			GHz
Conversion Loss	7	9	11	dB
3LO-RF Isolation	47			dB
Supply Current (@ Vdd=+4V, Vgg=-0.5V)	100			mA

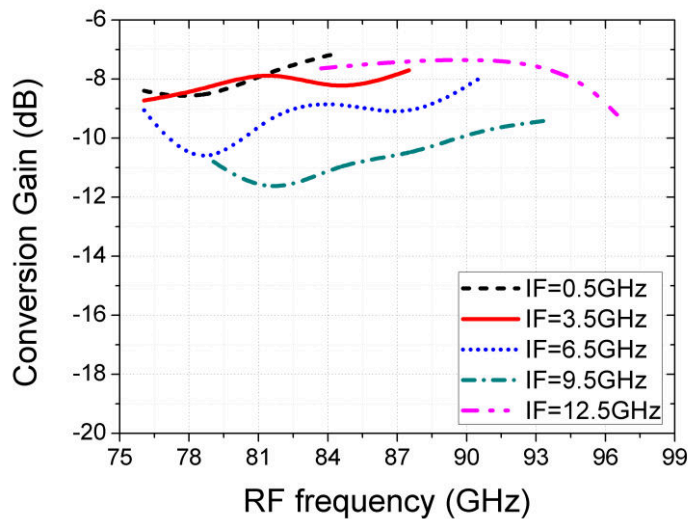


Test Results

Conversion Loss VS.LO Power



Conversion Loss VS.IF Frequency



Absolute Maximum Ratings

LO Input Power	+ 21dBm
Storage Temperature	-65 - +150°C
Operating Temperature	-55 - +85°C

Assembly Diagram

