

X=1550 μ m Y=1400 μ m

Product Features

- ◆ RF frequency: 70 to 90 GHz
- ◆ LO Frequency: 70 to 90 GHz
- ◆ IF Frequency: DC to ~18 GHz
- ◆ Conversion Loss: 12 dB
- ◆ LO Input Power: +14 dBm Typ.
- ◆ Die Size: < 2.2 sq. mm

Performance Characteristics (Ta = 25°C)

Specification	Min	Typ	Max	Unit
RF Frequency	70		90	GHz
LO Frequency	70		90	GHz
IF Frequency	DC		18	GHz
Conversion Loss		12		dB
LO Input Power		14		dBm

Applications

- ◆ New FCC E-Band Communication Systems
 - Covers both 71-76 GHz and 81-86 GHz Frequency Bands
- ◆ Short-Haul / High Capacity Links
- ◆ Enterprise Wireless LAN
- ◆ Wireless Fiber Replacement
- ◆ Automotive Radar

Product Description

The MDB277 is a monolithic HBT broadband mixer. To ensure rugged and reliable operation, HBT devices are fully passivated. Both bond pad and backside metallization are Au, which is compatible with conventional die attach, thermocompression and thermosonic wire bonding assembly techniques.

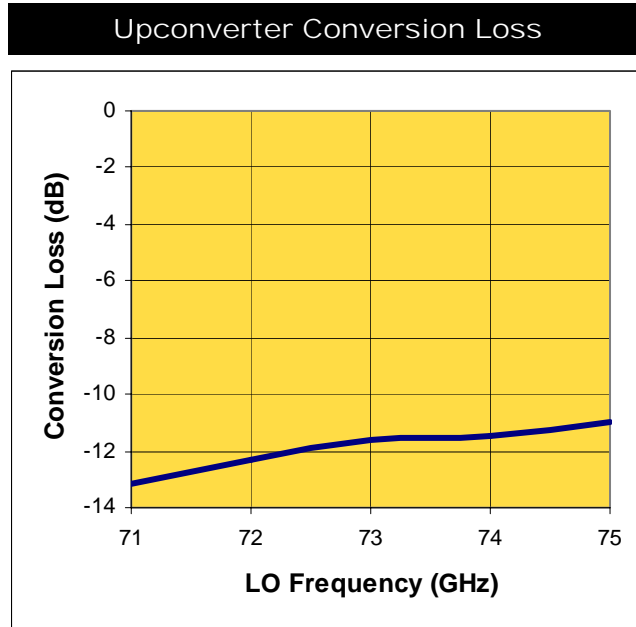
Absolute Maximum Ratings (T_{OP} = 25°C)

Parameter	Min	Max	Unit
Assy. Temperature (60 seconds)		300	°C

Preliminary Information: The data contained in this document describes new products in the sampling or preproduction phase of development and is for information only. Northrop Grumman reserves the right to change without notice the characteristic data and other specifications as they apply to this product. The product represented by this datasheet is subject to U.S. Export Law as contained in ITAR or the EAR regulations.



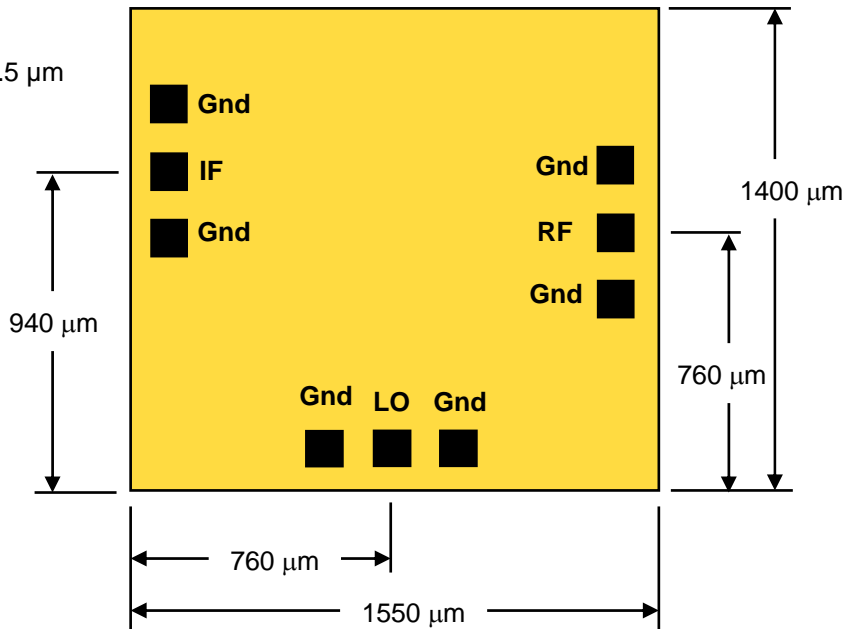
Measured Performance Characteristics ($T_{OP} = 25^{\circ}C$)



RF=81-85 GHz, LO=71-75 GHz, IF=10 GHz, PRF=-20 dBm, LO Pin = +14dBm

Die Size and Bond Pad Locations

- X Dimension: $1550 \pm 25 \mu m$
- Y Dimension: $1400 \pm 25 \mu m$
- RF Bond Pad Dimension: $101 \times 101 \mu m \pm 0.5 \mu m$
- Chip Thickness = $101 \pm 5 \mu m$



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