500–2000 MHz GaAs MMIC Passive Double-Balanced Mixer Die

LCI-MIX-500-2000-D is a GaAs pHEMT passive double-balanced mixer bare die for the RF band 500–2000 MHz, with separate RF, LO and IF ports.

Conversion loss: 9 dB (typical); LO power: 15 dBm; Operating frequency (IF): 0 MHz (minimum) / 900 MHz (maximum) / DC–900 MHz. Die dimensions: 2.1 × 1.45 × 0.1 mm.



RF characteristics

TA = +25 °C

Parameter	Symbol	Minimum	Typical	Maximum	Value	Unit
Operating frequency	-	500	-	2000	500–2000 (RF / LO)	MHz
Operating frequency (IF)	-	0	-	900	DC–900	MHz
Conversion loss	-	-	9	-	-	dB
Isolation (LO / RF)	-	-	45	-	-	dB
Isolation (LO / IF)	-	-	40	-	-	dB
Isolation (RF / IF)	-	-	13	-	-	dB
Input power at 1 dB compression	-	-	13	-	-	dBm
LO power	-	-	-	-	15	dBm

Absolute limits

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Maximum input power	-	-	-	25	dBm

Environmental specifications

Parameter	Symbol	Minimum	Typical	Maximum	Unit
Storage temperature	-	-65	-	150	°C

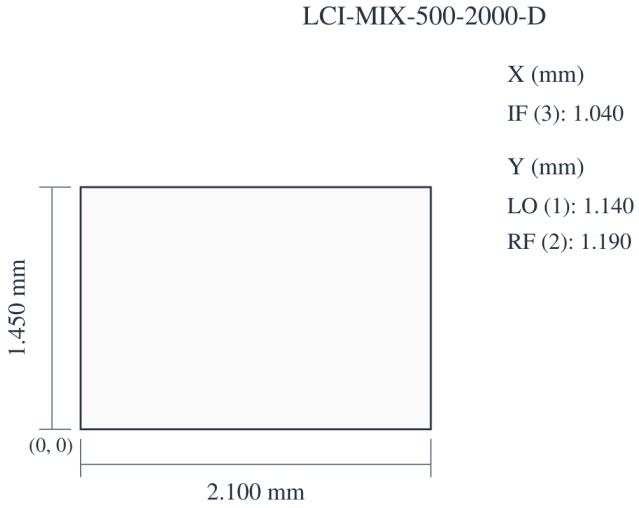
Bond-pad assignments

Pins	Symbol	Function	Notes
1	LO	Local oscillator port	-
2	RF	RF port	-
3	IF	IF port	-
4–9	GND	Ground pad for probe testing	-

Die dimensions

Parameter	Value	Unit
Die dimensions	2.1 × 1.45 × 0.1	mm

Reference drawing showing selected dimensions in mm. Use complete drawings for fabrication and wire bonding.



2.100 × 1.450 × 0.100 mm
X, Y: ±0.100 mm
X → · Y ↑ · X, Y: mm

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Performance curves

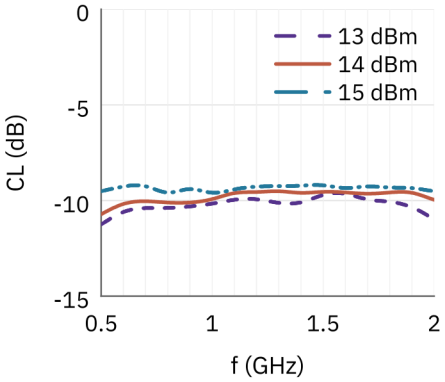
Read each figure with its stated operating conditions.

Port matching; Conversion loss; Isolation; IF response.

Figure notes: TA=+25°C. Readings are approximate. CL↓ / CL↑: IF = 50 MHz; CL(fIF): LO = 15 dBm.

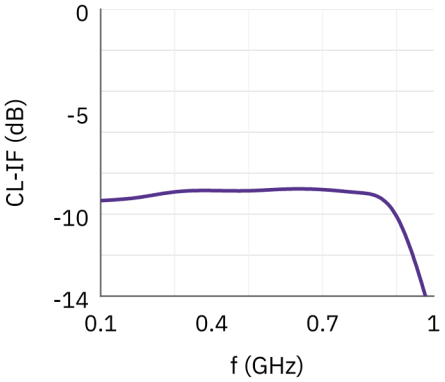
RF → IF

IF = 50 MHz



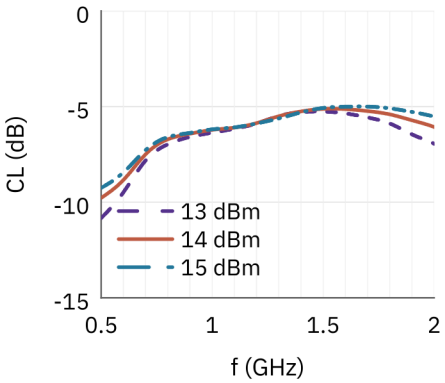
CL-IF

LO = 15 dBm

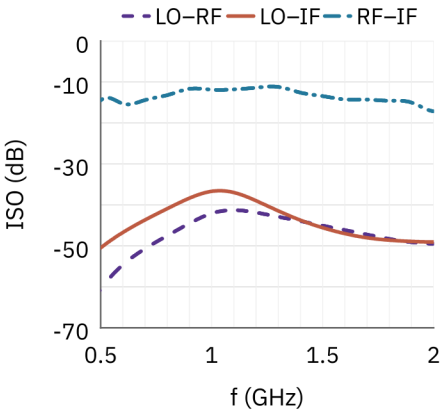


IF → RF

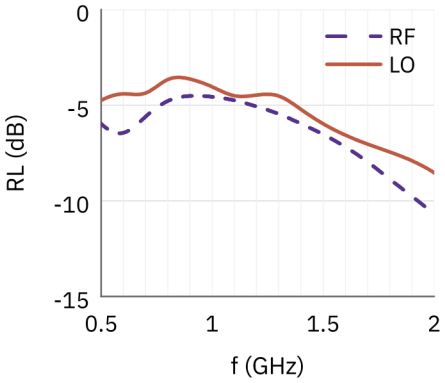
IF = 50 MHz



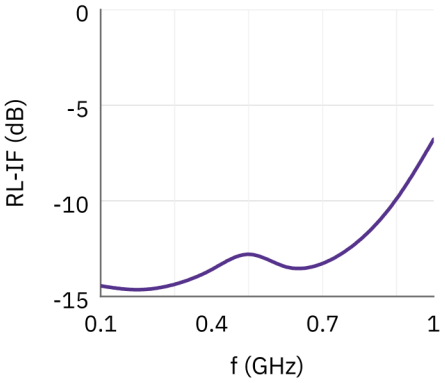
ISO



RL (RF, LO)

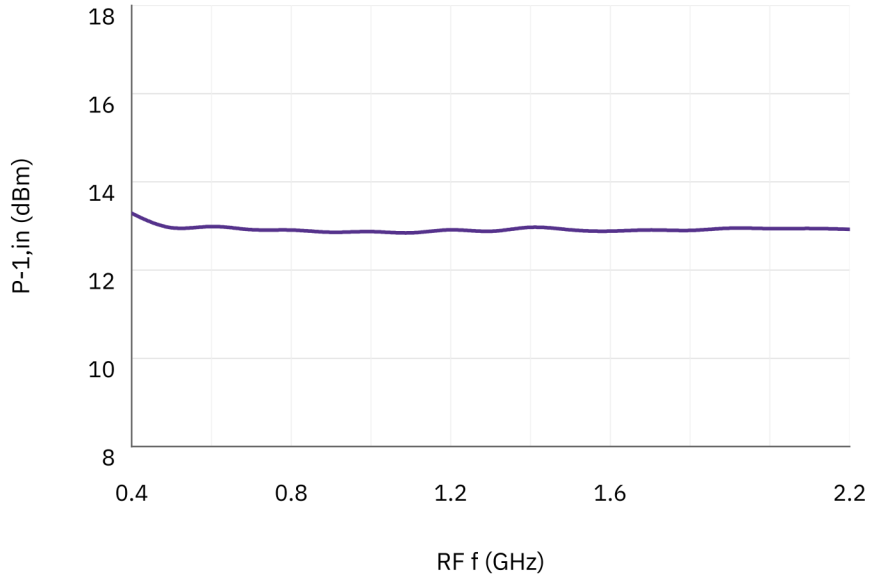


RL-IF



Input power at 1 dB compression.

Figure notes: TA=+25°C. Readings are approximate.



Document notice

Specifications are subject to revision. Before design release, confirm the current document revision and product-specific requirements with LCRF. The approved quotation and order documentation define the supplied configuration.