



Double Balanced Mixer Operating from 7 GHz to 34 GHz with an IF Range from DC to 8 GHz and LO Power of +13 dBm, 2.92mm

Mixers Technical Data Sheet

PE86X1029

Features

- Broadband Double Balanced Mixer Design
- High Linearity
- LO & RF Frequency Range: 7 GHz to 34 GHz
- IF Frequency Range: DC to 8 GHz
- LO Drive Level: +15 dBm
- Advanced MMIC Technology
- Conversion Loss: 11.5 dB typ
- Port Isolations up to 40 dB typ
- Input IP3 Level: +21 dBm
- RF Input for P1dB: +13 dBm
- RF/LO Connectors: Female 2.92mm
- IF Connectors: Female SMA
- Operating Temperature Range: -40°C to +85°C
- Designed to Meet MIL-STD-202 Environmental Test Conditions

Applications

- Electronic Warfare
- Point-to-Point Radios
- Point-to-Multipoint Radios
- VSAT
- Radar
- Space Systems
- Test Instrumentation
- Sensors
- Telecom Infrastructure
- Military End-Use

Description

The PE86X1029 is a Highly Linear broadband Double Balanced Mixer that operates across an RF and LO frequency range from 7 GHz to 34 GHz with an IF frequency range of DC to 8 GHz and supports an LO drive level of +15 dBm nominal. The design utilizes advanced MMIC technology and exhibits exceptional typical performance that includes Conversion Loss of 11.5 dB, RF to LO and LO to IF isolation levels up to 40 dB, and an input IP3 level of +21 dBm. The 50 ohm hybrid module does not require any external components or matching circuitry. The rugged compact package assembly supports female 2.92mm connectors on the RF and LO ports and a female SMA connector on the IF port, operates over a temperature range of -40°C to +85°C, and is designed to meet MIL-STD-202 environmental test conditions for Humidity, Shock, Vibration, and Altitude for high reliability.

Electrical Specifications

Description	Minimum	Typical	Maximum	Units
RF Frequency Range	7		34	GHz
LO Frequency Range	7		34	GHz
IF Frequency Range	DC		8	GHz
Impedance		50		Ohms
Conversion Loss		11	15	dB
LO to RF Isolation		35		dB
LO to IF Isolation	20	30		dB
RF to IF Isolation	7	10		dB
Input at 1dB Compression Point		+13		dBm
Input at 3rd Order Intercept Point		+22		dBm
LO Input Power	+13	+15	+17	dBm

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Absolute Maximum Rating

Parameter	Rating
RF Power	+21 dBm
LO Driver	+27 dBm
Operating Temperature	-65~+150°C
Storage Temperature	-40~+85°C

Mechanical Specifications

Weight 0.044 lbs [19.96 g]

Configuration

Design Double Balanced
 Package Type Connectorized
 RF Connector 2.92mm Female
 LO Connector 2.92mm Female
 IF Connector SMA Female

Environmental Specifications

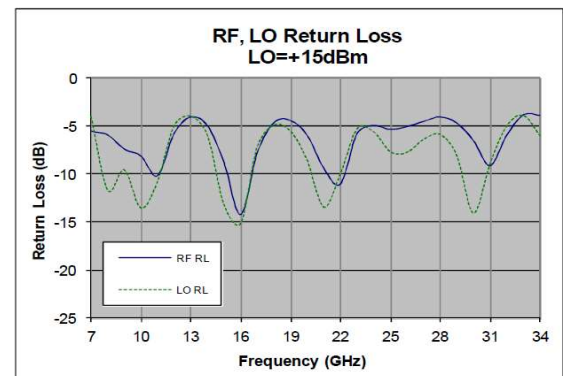
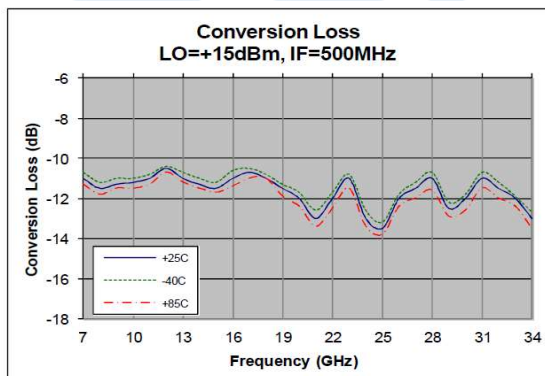
Humidity MIL-STD-202F, Method 103B, Condition B
 Shock MIL-STD-202F, Method 213B, Condition B
 Vibration MIL-STD-202F, Method 204D, Condition B
 Altitude MIL-STD-202F, Method 105C, Condition B

Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data



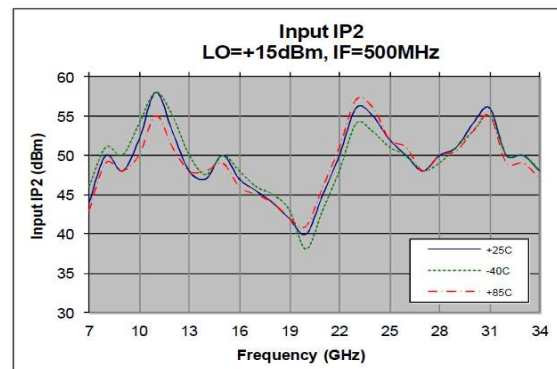
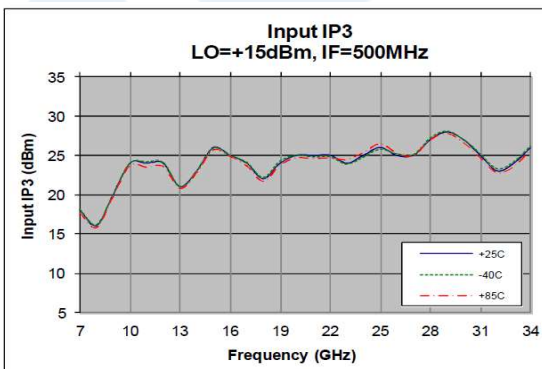
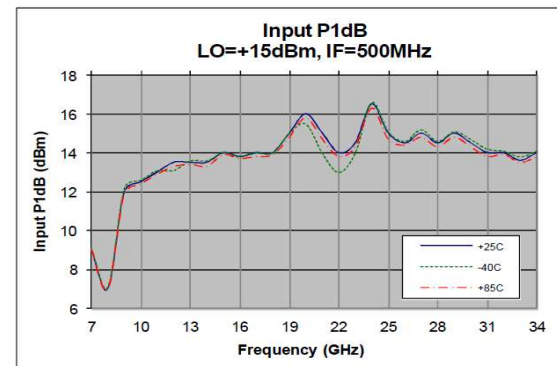
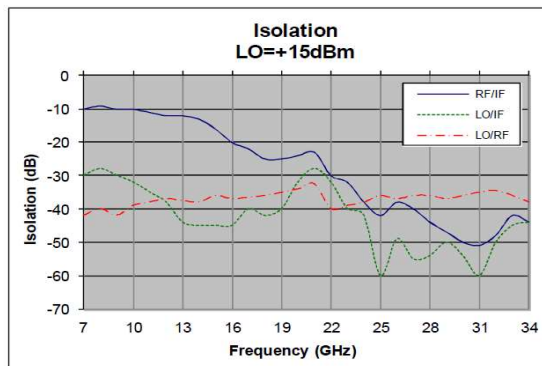
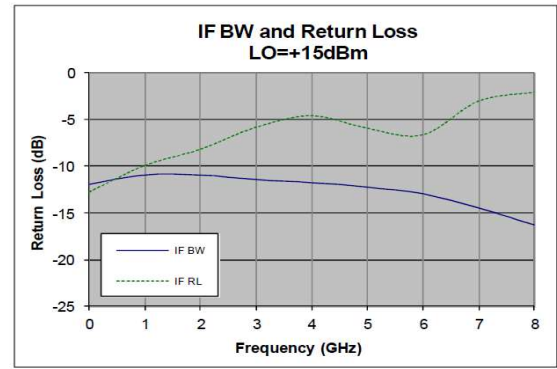
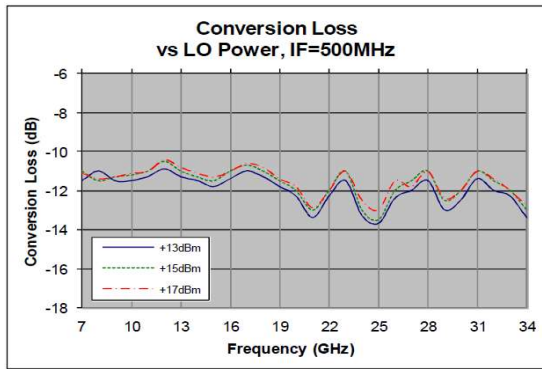
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Double Balanced Mixer Operating from 7 GHz to 34 GHz with an IF Range from DC to 8 GHz and LO Power of +13 dBm, 2.92mm from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

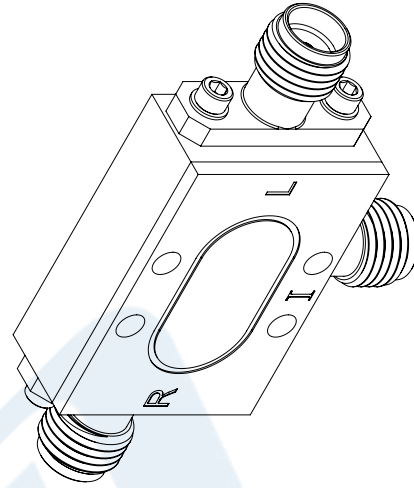
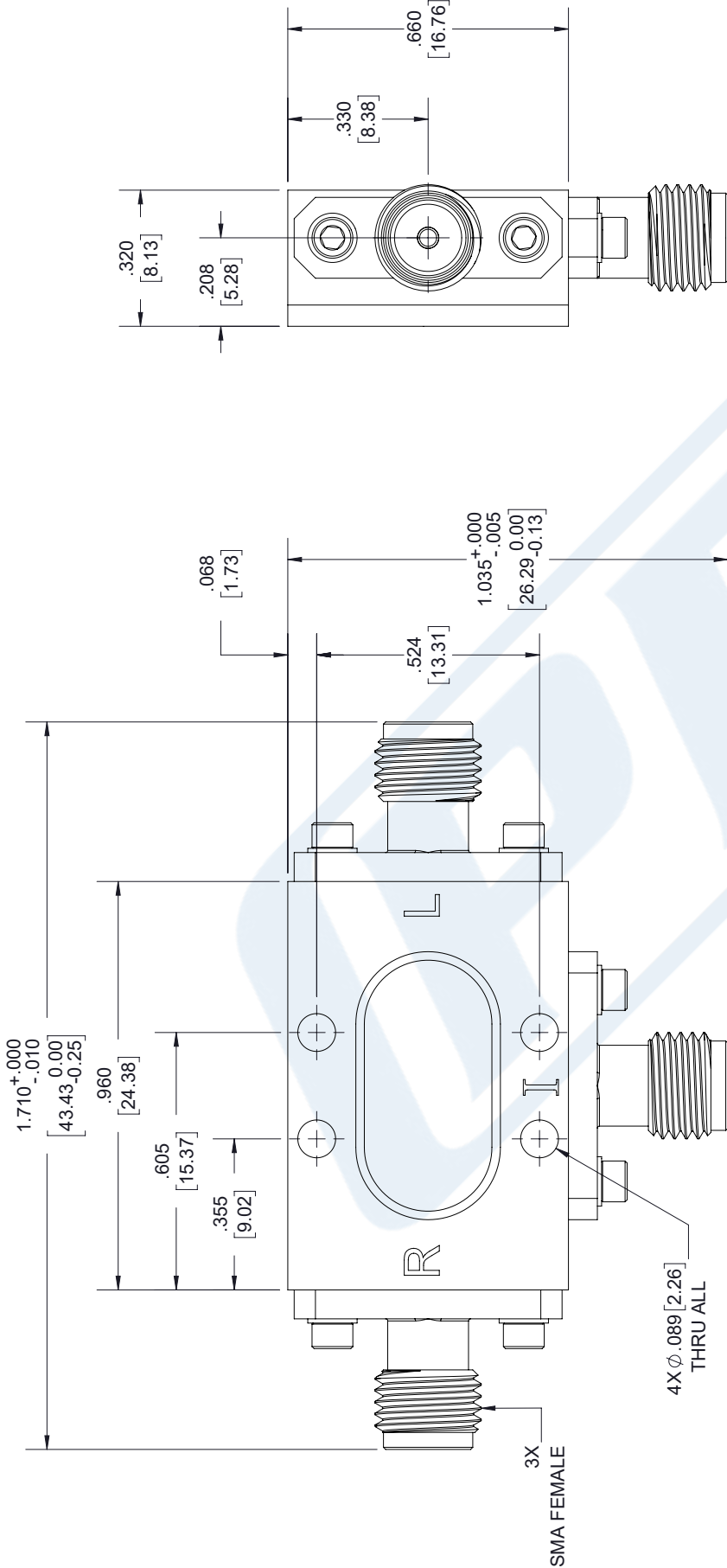
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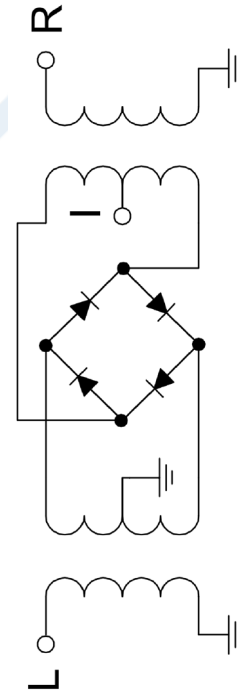
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PE86X1029 CAD Drawing

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SCHEMATIC



LABEL



STANDARD TOLERANCES

.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES



THE ENGINEER'S RF SOURCE

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DWG TITLE

PE86X1029

NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

CAGE CODE 53919

CAD FILE 04/26/18

SCALE N/A

SIZE A

7361