



Double Balanced Mixer Operating from 6 GHz to 26 GHz with an IF Range from DC to 8 GHz and LO Power of +13 dBm, SMA

Mixers Technical Data Sheet

PE86X1028

Features

- Broadband Double Balanced Mixer Design
- High Linearity
- LO & RF Frequency Range: 6 GHz to 26 GHz
- IF Frequency Range: DC to 8 GHz
- LO Drive Level: +13
- Advanced MMIC Technology
- Conversion Loss: 10 dB typ
- Port Isolations up to 37 dB typ
- Input IP3 Level: +22 dBm
- RF Input for P1dB: +11 dBm
- SMA Connectors
- 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 PE86X1028 is a highly linear broadband Double Balanced Mixer that operates across an RF and LO frequency range from 6 GHz to 26 GHz with an IF frequency range of DC to 8 GHz and supports an LO drive level of +13 dBm nominal. The design utilizes advanced MMIC technology and exhibits exceptional typical performance that includes Conversion Loss of 10 dB, RF to LO and LO to IF isolation levels up to 37 dB, and an input IP3 level of +22 dBm. The 50 ohm hybrid module does not require any external components or matching circuitry. The rugged compact package assembly supports female SMA connectors, 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	6		26	GHz
LO Frequency Range	6		26	GHz
IF Frequency Range	DC		8	GHz
Impedance		50		Ohms
Conversion Loss		10	12	dB
LO to RF Isolation	25	37		dB
LO to IF Isolation	18	37		dB
RF to IF Isolation	5	11		dB
RF Port VSWR		2.5:1	4:1	
LO Port VSWR		1.5:1	2.5:1	
IF Port VSWR		2:1	3.5:1	
Input at 1dB Compression Point	+9	+11		dBm
Input at 2nd Order Intercept Point	+40	+45		dBm
Input at 3rd Order Intercept Point	+18	+22		dBm

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Double Balanced Mixer Operating from 6 GHz to 26 GHz with an IF Range from DC to 8 GHz and LO Power of +13 dBm, SMA PE86X1028](#)



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RF Input Power	+11	dBm
LO Input Power	+13	dBm

Absolute Maximum Rating

Parameter	Rating	Units
RF/IF Power	+21	dBm
LO Driver	+21	dBm
Operating Temperature	-40 to +85	°C
Storage Temperature	-65 to +150	°C



ESD Sensitive Material,
Transport material in
Approved ESD bags.
Handle only in approved
ESD Workstation.

Mechanical Specifications

Configuration

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

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-65 to +150 deg C

- Humidity
- Shock
- Vibration
- Altitude

MIL-STD-202F, Method 103B, Condition B
MIL-STD-202F, Method 213B, Condition B
MIL-STD-202F, Method 204D, Condition B
MIL-STD-202F, Method 105C, Condition B

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

Plotted and Other Data

Notes:

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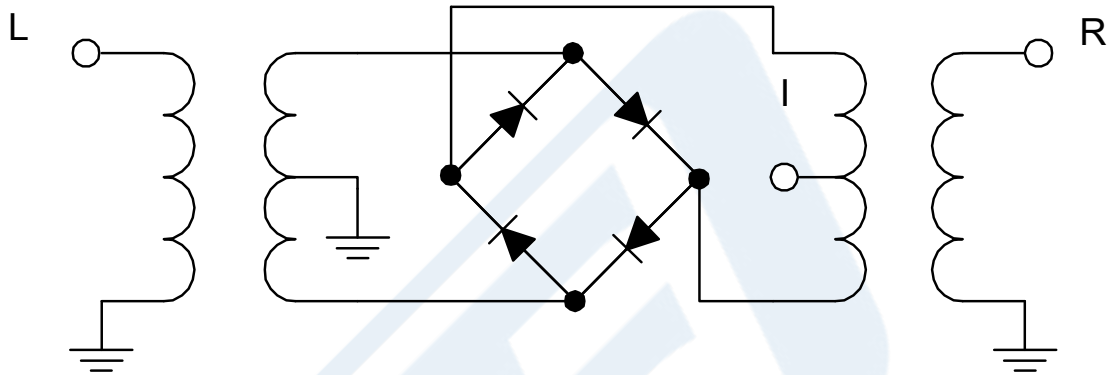


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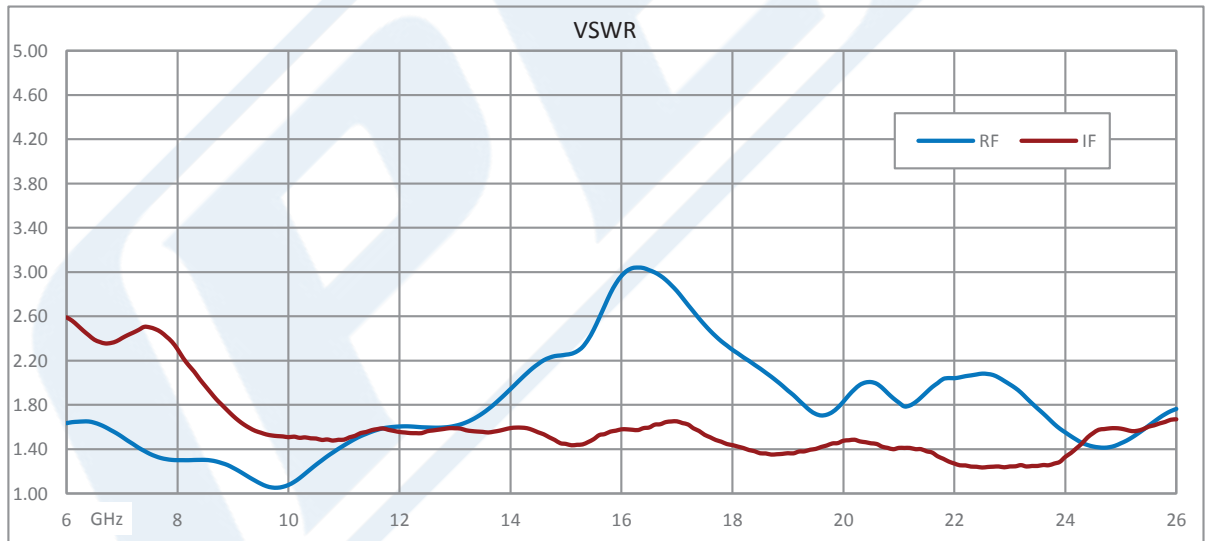
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Functional Block Diagram



Typical Performance Data



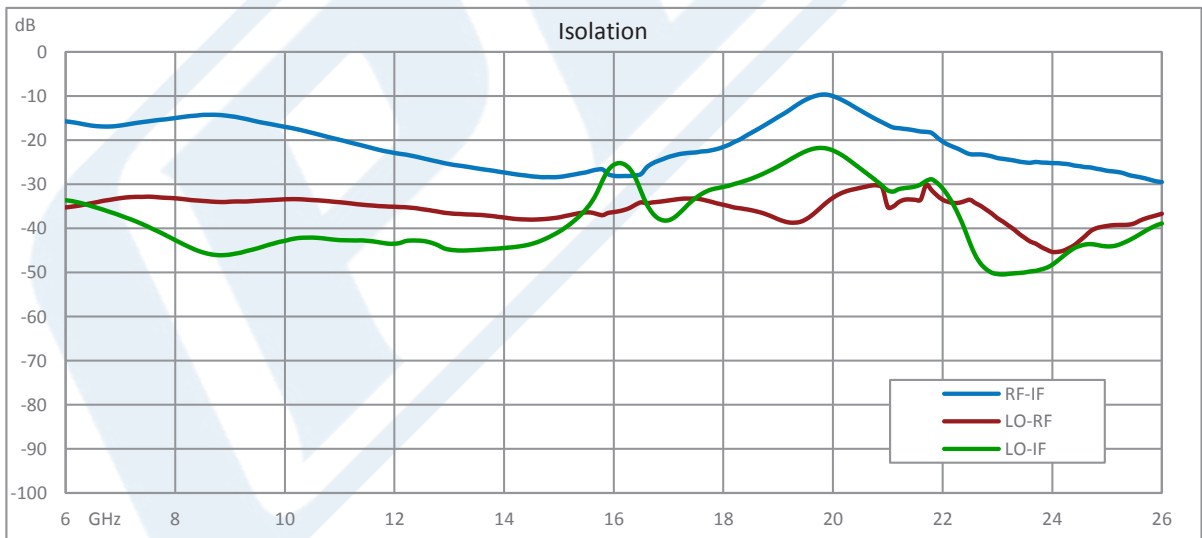
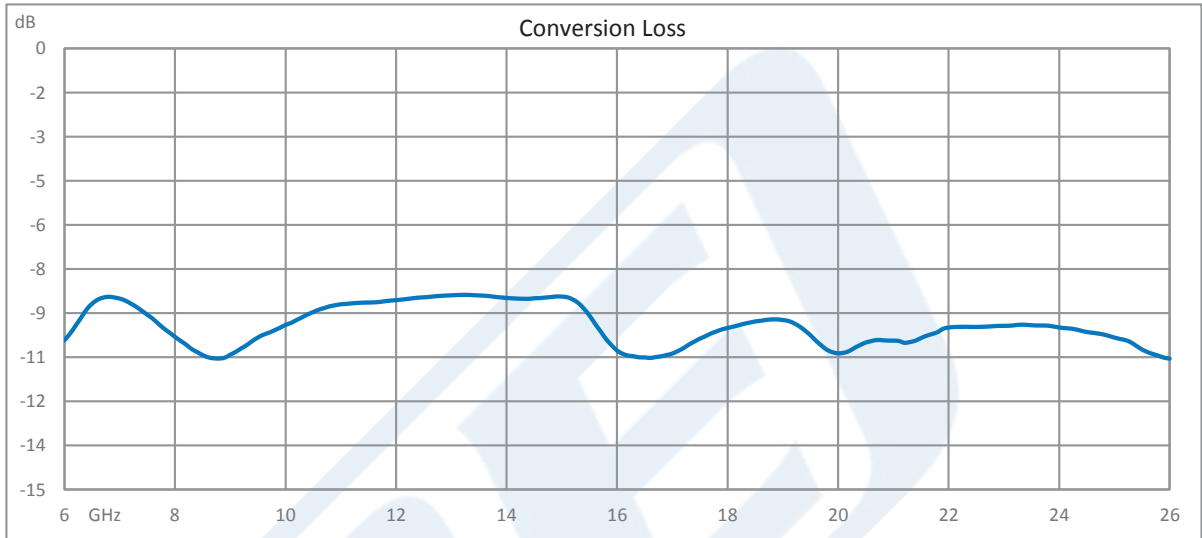
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Double Balanced Mixer Operating from 6 GHz to 26 GHz with an IF Range from DC to 8 GHz and LO Power of +13 dBm, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

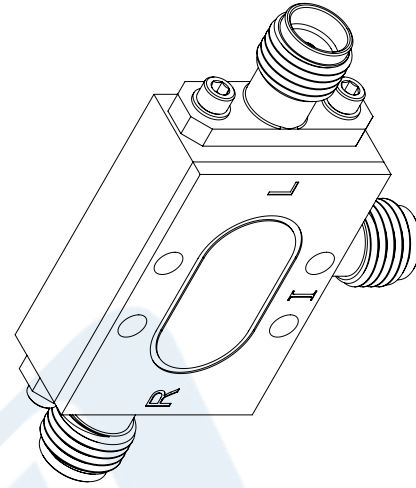
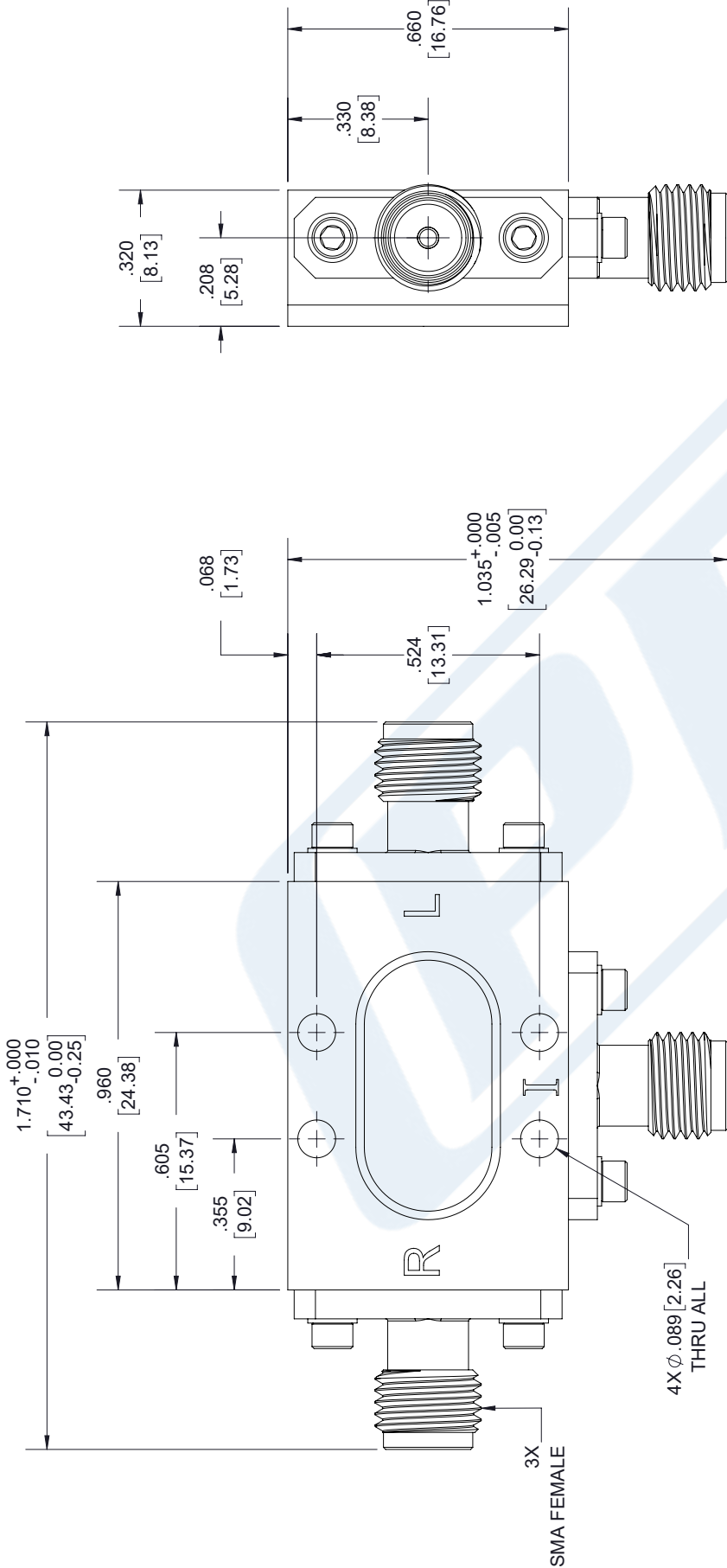
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URL: <https://www.pasternack.com/sma-mixer-6-26-ghz-if-dc-8-ghz-pe86x1028-p.aspx>

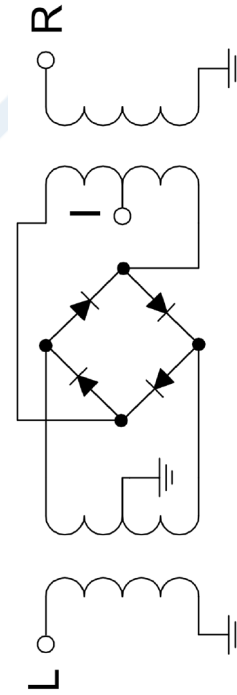
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PE86X1028 CAD Drawing

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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



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DWG TITLE

PE86X1028

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