



Double Balanced Mixer Operating from 7 GHz to 43 GHz with an IF Range from DC to 10 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm

## Mixers Technical Data Sheet

PE86X1009

### Features

- Double Balanced Mixer Module
- RF/LO Frequency 7 to 43 GHz
- Wide IF Bandwidth DC to 10 GHz
- Balanced Design utilizes GaAs Schottky Diodes
- No external components or matching circuitry
- Mil Spec Compliant
- DC Coupled Design
- LO Drive level +13 dBm
- Low Conversion loss 9 dB
- High LO/RF Isolation 35 dB
- Field Replaceable 2.92mm RF and LO Connectors and an SMA IF Connector
- RF/IF Input up to +10 dBm
- Operating Temperature Range 0°C to +50°C

### 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 PE86X1009 is an ultra broadband double balanced mixer that operates across an RF and LO frequency range from 7 to 43 GHz with an IF frequency range of DC to 10 GHz and supports an LO drive level of +13 dBm typical. The 50 ohm design utilizes high performance GaAs Schottky diodes in a balanced configuration that's DC coupled. Exceptional typical performance includes 9 dB conversion loss, and 35 dB LO to RF and LO to IF Isolation. The compact and rugged drop-in pin package supports field replaceable 2.92mm connectors for the RF and LO ports and an SMA connector for the IF port, operates over a temperature range of 0°C to +50°C, and is designed to meet MIL-STD-202 environmental test conditions for Humidity, Shock, Vibration, and Altitude for high reliability.

### Electrical Specifications (+25°C, 50 Ohm System)

Description	Minimum	Typical	Maximum	Units
RF Frequency Range	7		43	GHz
LO Frequency Range	7		43	GHz
IF Frequency Range	DC		10	GHz
Impedance		50		Ohms
Conversion Loss		9		dB
LO to RF Isolation		35		dB
LO to IF Isolation		35		dB
RF Input Power			+10	dBm
LO Input Power		+13		dBm
IF Input Power			+10	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 7 GHz to 43 GHz with an IF Range from DC to 10 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm PE86X1009](#)



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**Mechanical Specifications**

**Configuration**

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

**Environmental Specifications**

**Temperature**

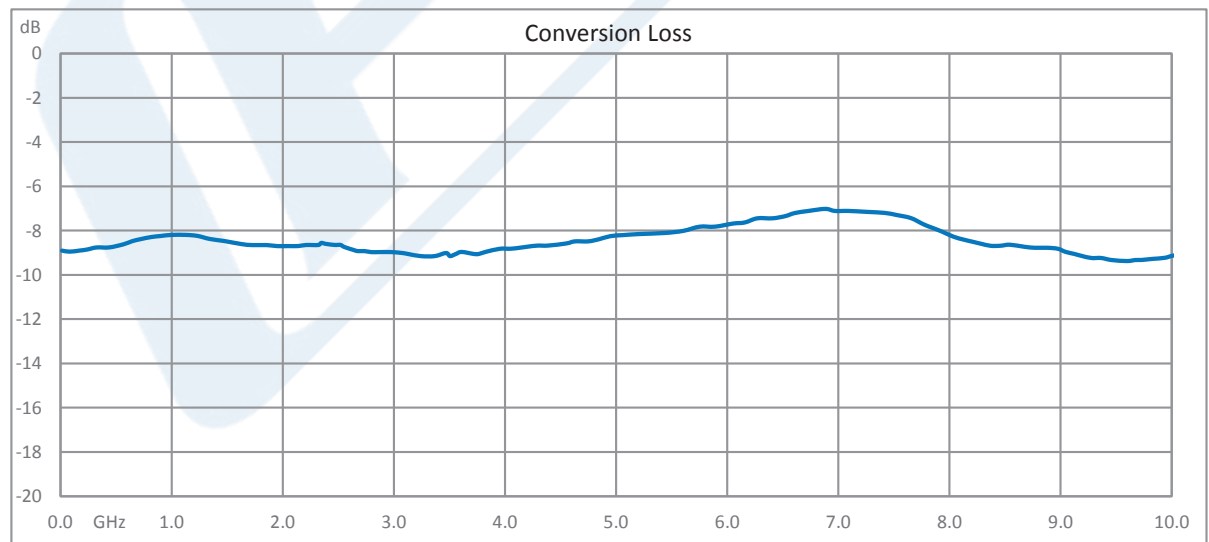
Operating Range	0 to +50 deg C
Humidity	MIL-STD-202F, Method 103B, Condition B
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B
Altitude	MIL-STD-202F, Method 105C, Condition B

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

**Plotted and Other Data**

Notes:

**Typical Performance Data**



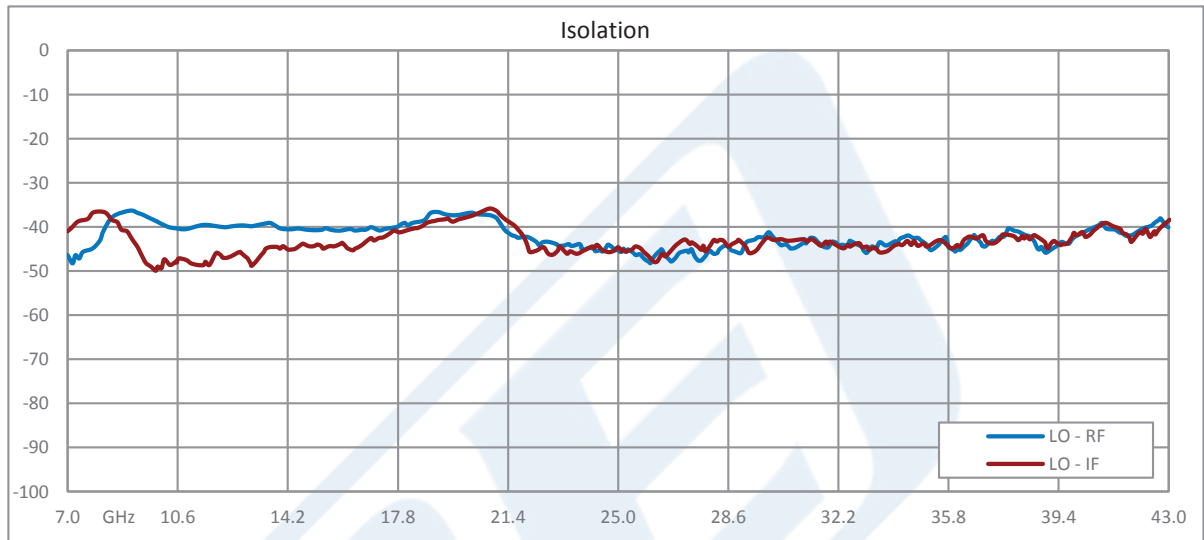
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Double Balanced Mixer Operating from 7 GHz to 43 GHz with an IF Range from DC to 10 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm PE86X1009](#)



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Double Balanced Mixer Operating from 7 GHz to 43 GHz with an IF Range from DC to 10 GHz and LO Power of +13 dBm, Field Replaceable 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.

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 7 GHz to 43 GHz with an IF Range from DC to 10 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm PE86X1009](https://www.pasternack.com/2.92mm-mixer-7-43-ghz-if-dc-10-ghz-pe86x1009-p.aspx)

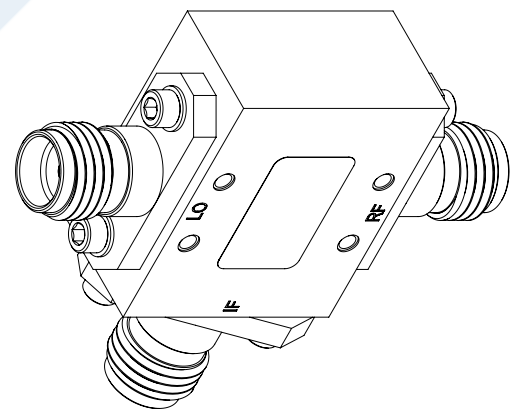
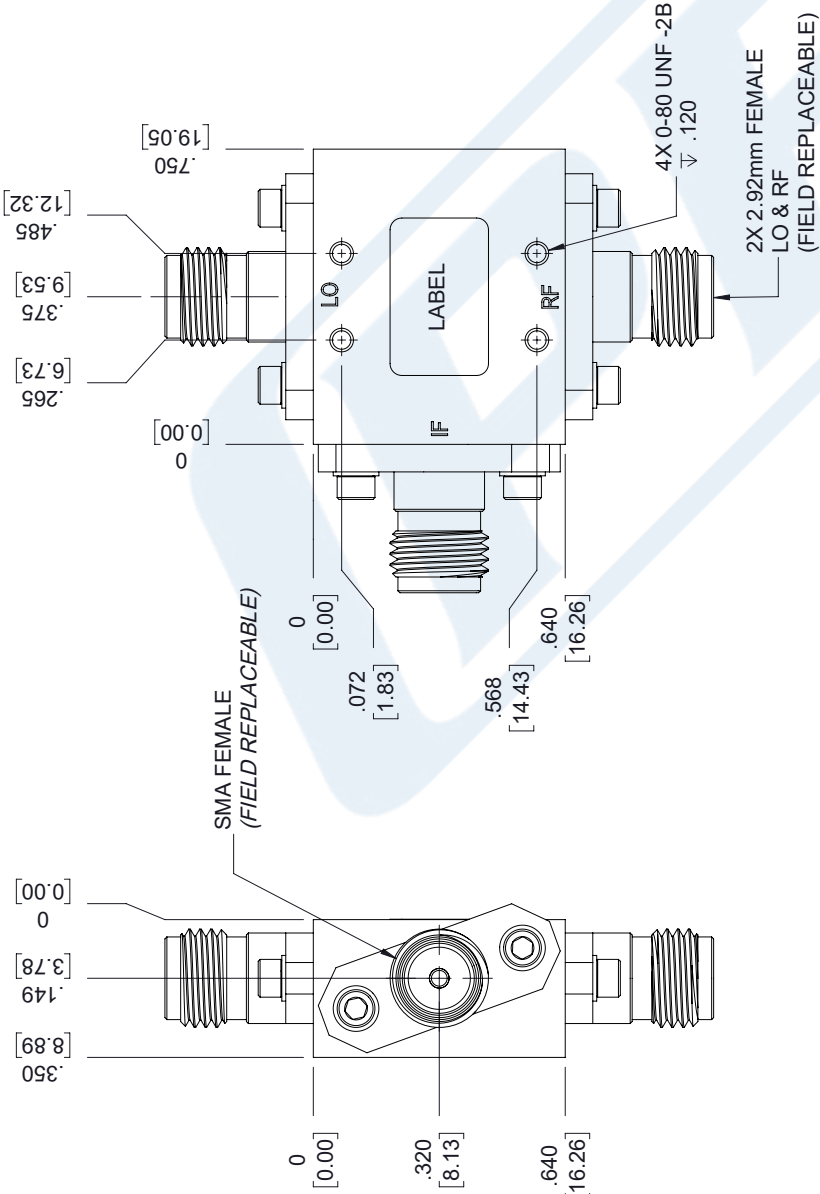
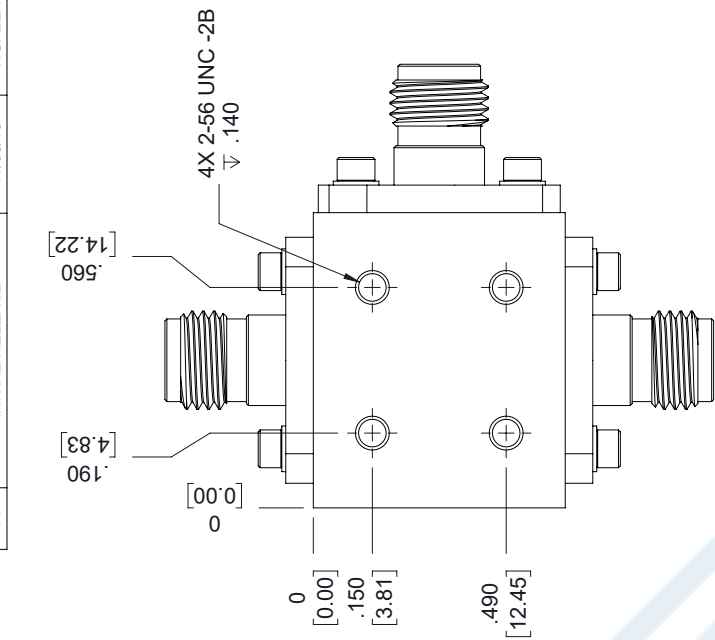
URL: <https://www.pasternack.com/2.92mm-mixer-7-43-ghz-if-dc-10-ghz-pe86x1009-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Pasternack does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Pasternack does not assume any liability arising out of the use of any part or documentation.

# PE86X1009 CAD Drawing

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	11/08/19	T. GALLA



PASTERNAK  
PE86X1009  
D/C: YYWW

LABEL

UNLESS OTHERWISE SPECIFIED  
LEADING DIMENSIONS ARE INCHES  
DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:  
 .X = ±.2 [5.08] FRACTIONS  
 .XX = ±.02 [.51] ±.1/32  
 .XXX = ±.005 [.13] ANGLES ± 1°

CABLE LENGTH (L) TOLERANCES:  
 L ≤ 12 [305] = +1 [25] / -0  
 12 [305] < L ≤ 60 [1524] = +2 [51] / -0  
 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0  
 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0  
 300 [7620] < L = +5%L / -0

ALL DIMENSIONS SHOWN  
ARE FOR REFERENCE ONLY.

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SHEET 1 OF 1  
SCALE N/A

SIZE A CAGE CODE A 53919 DRAWN BY K. DANG PART NUMBER PE86X1009 REV A