



Double Balanced Mixer Operating from 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm

## Mixers Technical Data Sheet

PE86X1010

### Features

- Double Balanced Mixer Module
- RF/LO Frequency
- Wide IF Bandwidth
- No external components or matching circuitry
- Mil Spec Compliant
- DC Coupled Design
- LO Drive level +13 dBm
- Low Conversion loss
- High LO/RF Isolation 35 dB
- Field Replaceable 2.92 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 PE86X1010 is an ultra broadband millimeter wave double balanced mixer that operates across an RF and LO frequency range from 24 to 40 GHz with a broadband IF frequency range of DC to 18 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 8 dB conversion loss, and 35 dB LO to RF isolation, and 28 dB 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	24		40	GHz
LO Frequency Range	24		40	GHz
IF Frequency Range	DC		18	GHz
Impedance		50		Ohms
Conversion Loss		8		dB
LO to RF Isolation		35		dB
LO to IF Isolation		28		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 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm PE86X1010](#)



Double Balanced Mixer Operating from 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm

Mixers Technical Data Sheet

PE86X1010

**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**

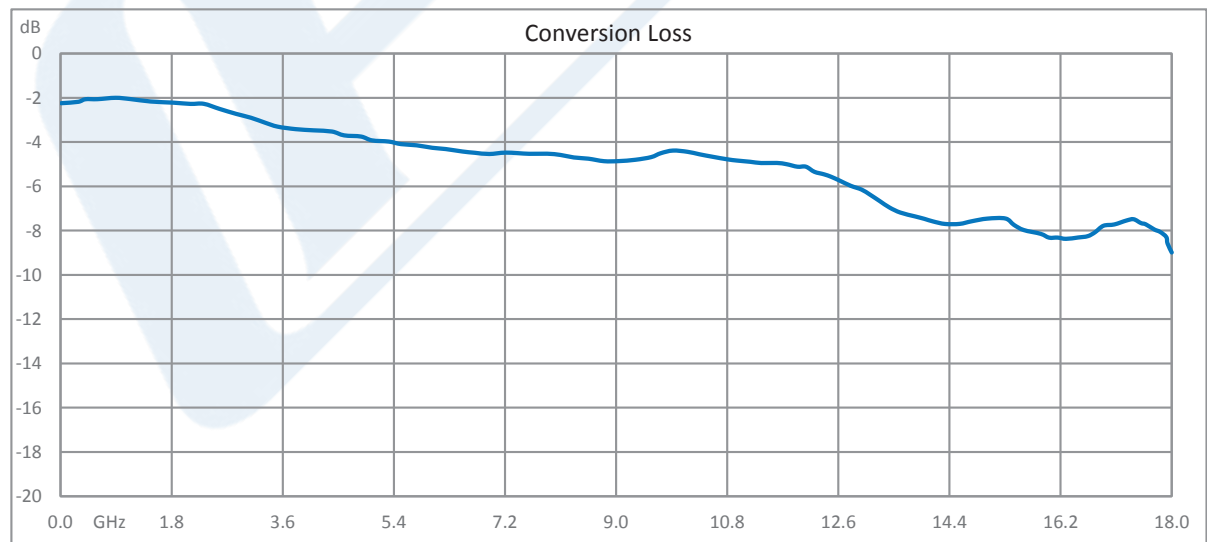
Operating Range	0 to +50 deg C
Humidity	MIL-STD-202F, Method 103B, Condition B
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B
Altitude	MIL-STD-202F, Method 105C, Condition B

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

**Plotted and Other Data**

Notes:

**Typical Performance Data**



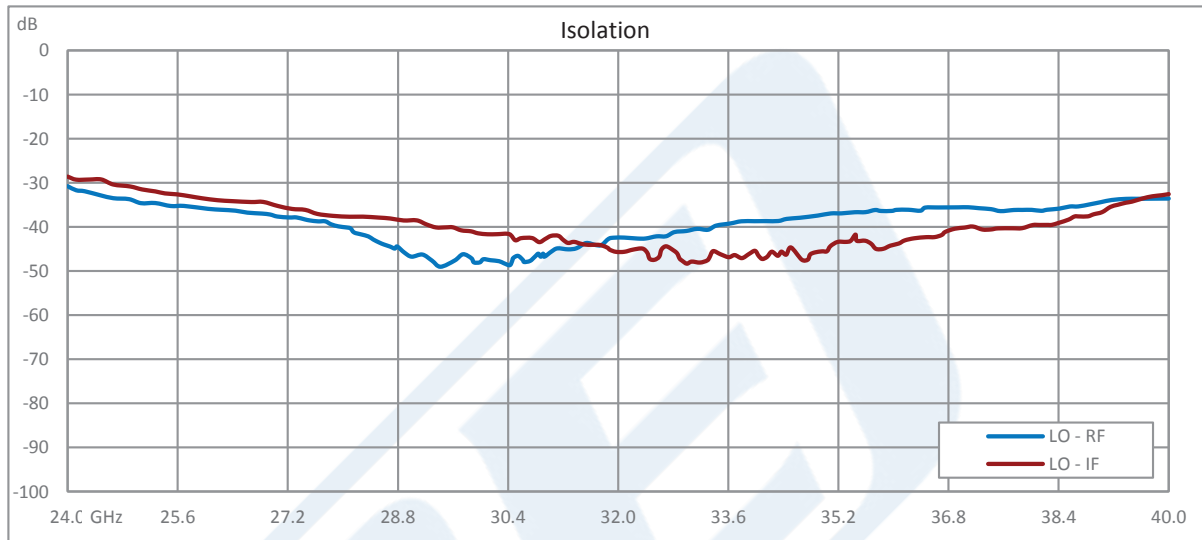
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Double Balanced Mixer Operating from 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm PE86X1010](#)



Double Balanced Mixer Operating from 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm

Mixers Technical Data Sheet

PE86X1010



Double Balanced Mixer Operating from 24 GHz to 40 GHz with an IF Range from DC to 18 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 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm PE86X1010](https://www.pasternack.com/2.92mm-mixer-24-40-ghz-if-dc-18-ghz-pe86x1010-p.aspx)

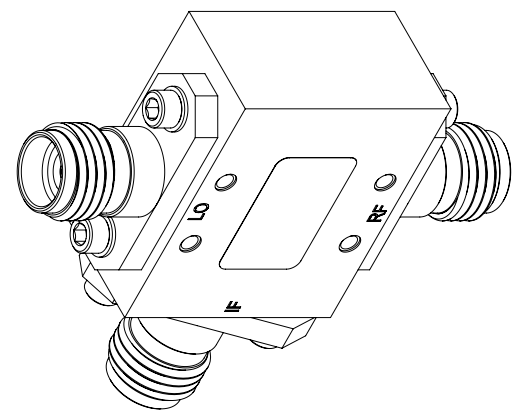
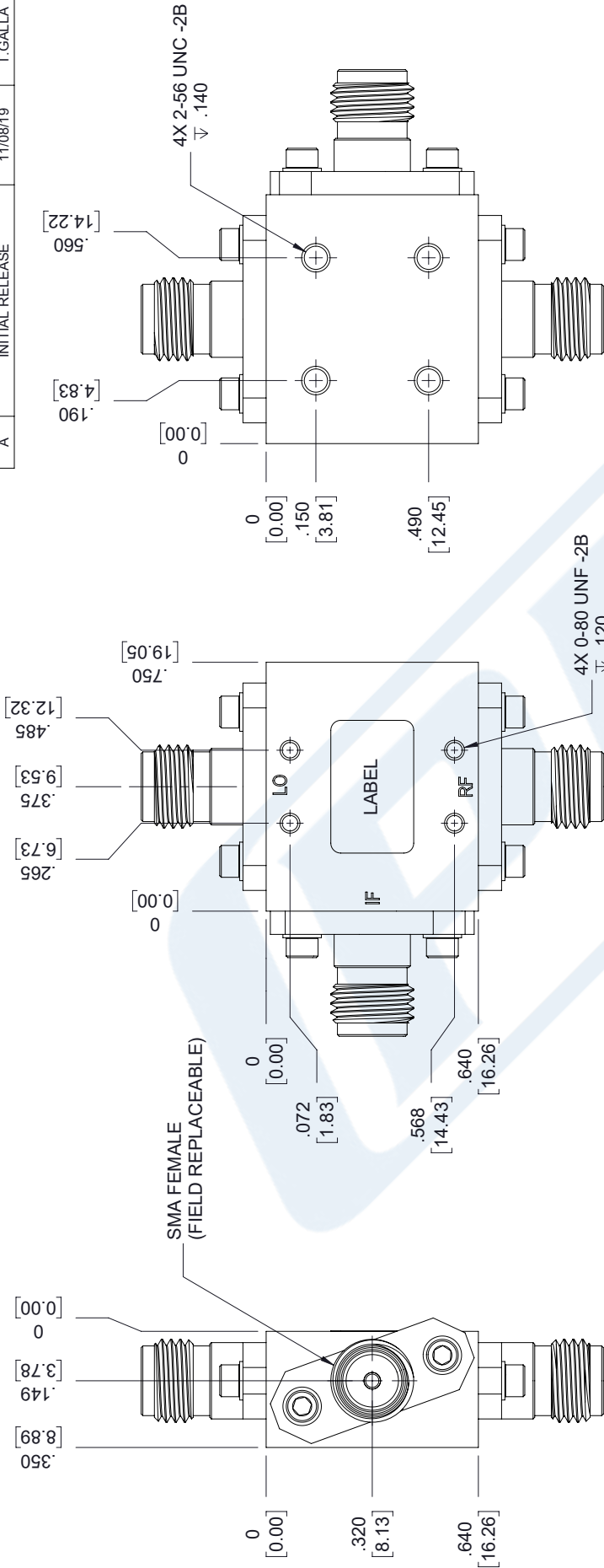
URL: <https://www.pasternack.com/2.92mm-mixer-24-40-ghz-if-dc-18-ghz-pe86x1010-p.aspx>

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.

# PE86X1010 CAD Drawing

Double Balanced Mixer Operating from 24 GHz to 40 GHz with an IF Range from DC to 18 GHz and LO Power of +13 dBm, Field Replaceable 2.92mm

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



THIRD-ANGLE PROJECTION

THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION. ALL RIGHTS RESERVED.

SHEET 1 OF 1

SCALE N/A

REV A

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

TOLERANCES:

.X = ±.2 [ .08 ] FRACTIONS ±.132  
 .XX = ±.02 [ .51 ] ANGLES ± 1°  
 .XXX = ±.005 [ .13 ]

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% / -0

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

**PE PASTERNAK** an INFINITI brand

Pasternack Enterprises, Inc.  
 P. O. Box 16759, Irvine, CA 92623.  
 Phone: 1.949.261.1920 | 1.866.727.8376  
 Fax: 1.949.261.7451  
 Website: www.pasternack.com  
 E-mail: sales@pasternack.com

SIZE A CAGE CODE 53919 DRAWN BY K.DANG PART NUMBER PE86X1010 REV A

PASTERNAK  
 PE86X1010  
 D/C: YYWW

THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.