



Double Balanced Mixer Operating from 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA

Mixers Technical Data Sheet

PE86X1006

Features

- Double Balanced Mixer Module
- RF/LO Frequency 5 to 20 GHz
- Wide IF Bandwidth DC to 3 GHz
- Balanced Design utilizes GaAs Schottky Diodes
- No external components or matching circuitry
- MIL-Spec Compliant
- DC Coupled Design
- LO Drive level +20 dBm
- Conversion loss 10 dB
- LO to RF Isolation 30 dB
- Field Replaceable SMA Connectors
- 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 PE86X1006 is a broadband double balanced mixer that operates across an RF and LO frequency range from 5 to 20 GHz with an IF frequency range of DC to 3 GHz and supports an LO drive level of +20 dBm typical. The 50 ohm design utilizes high performance GaAs Schottky diodes in a balanced configuration that's DC coupled. Exceptional typical performance includes 10 dB conversion loss, 30 dB LO to RF Isolation, and 17 dB LO to IF Isolation. The compact and rugged drop-in pin package supports field replaceable SMA connectors, 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	5		20	GHz
LO Frequency Range	5		20	GHz
IF Frequency Range	DC		3	GHz
Impedance		50		Ohms
Conversion Loss		10		dB
LO to RF Isolation		30		dB
LO to IF Isolation		17		dB
RF Input Power			+10	dBm
LO Input Power		+20		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 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA PE86X1006](#)



Double Balanced Mixer Operating from 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA

Mixers Technical Data Sheet

PE86X1006

Mechanical Specifications

Configuration

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

Environmental Specifications

Temperature

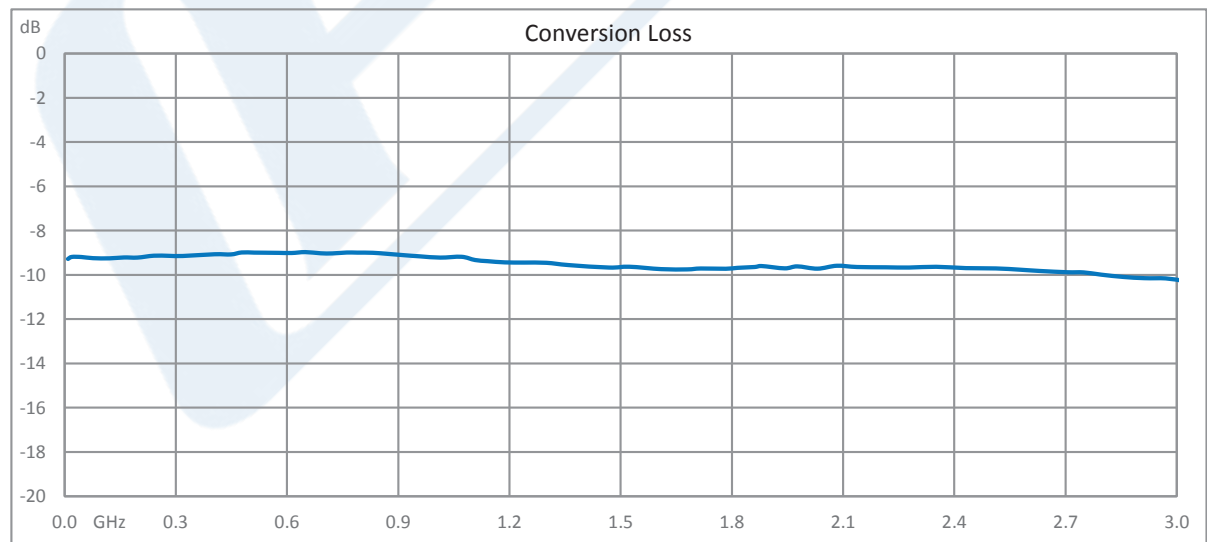
Operating Range	0 to +50 deg C
Humidity	MIL-STD-202F, Method 103B, Condition B
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B
Altitude	MIL-STD-202F, Method 105C, Condition B

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

Plotted and Other Data

Notes:

Typical Performance Data



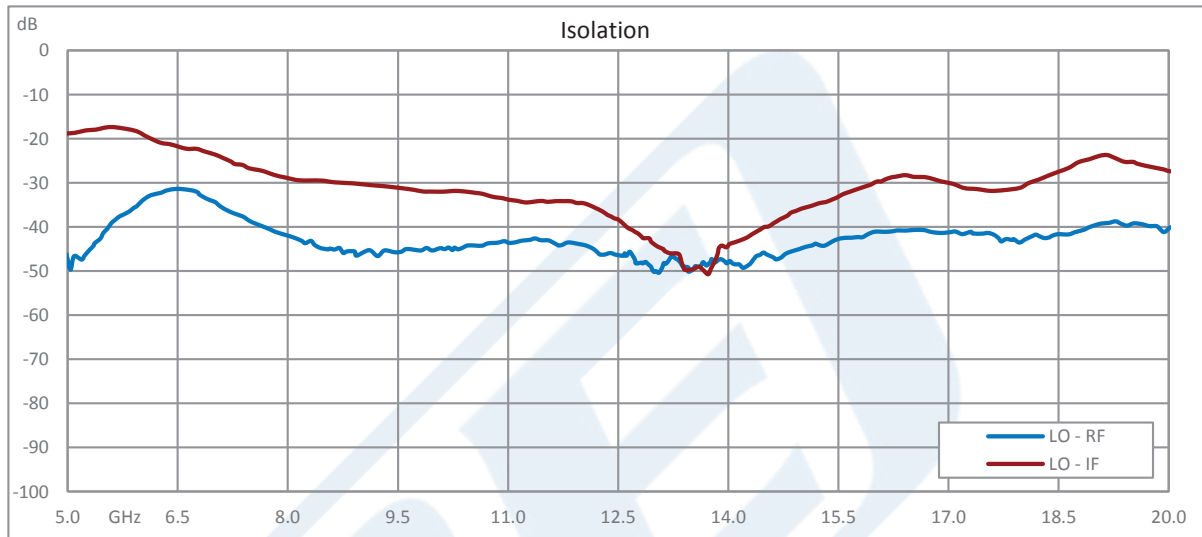
Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Double Balanced Mixer Operating from 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA PE86X1006](#)



Double Balanced Mixer Operating from 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA

Mixers Technical Data Sheet

PE86X1006



Double Balanced Mixer Operating from 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable 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.

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 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA PE86X1006](https://www.pasternack.com/sma-mixer-5-20-ghz-if-dc-3-ghz-pe86x1006-p.aspx)

URL: <https://www.pasternack.com/sma-mixer-5-20-ghz-if-dc-3-ghz-pe86x1006-p.aspx>

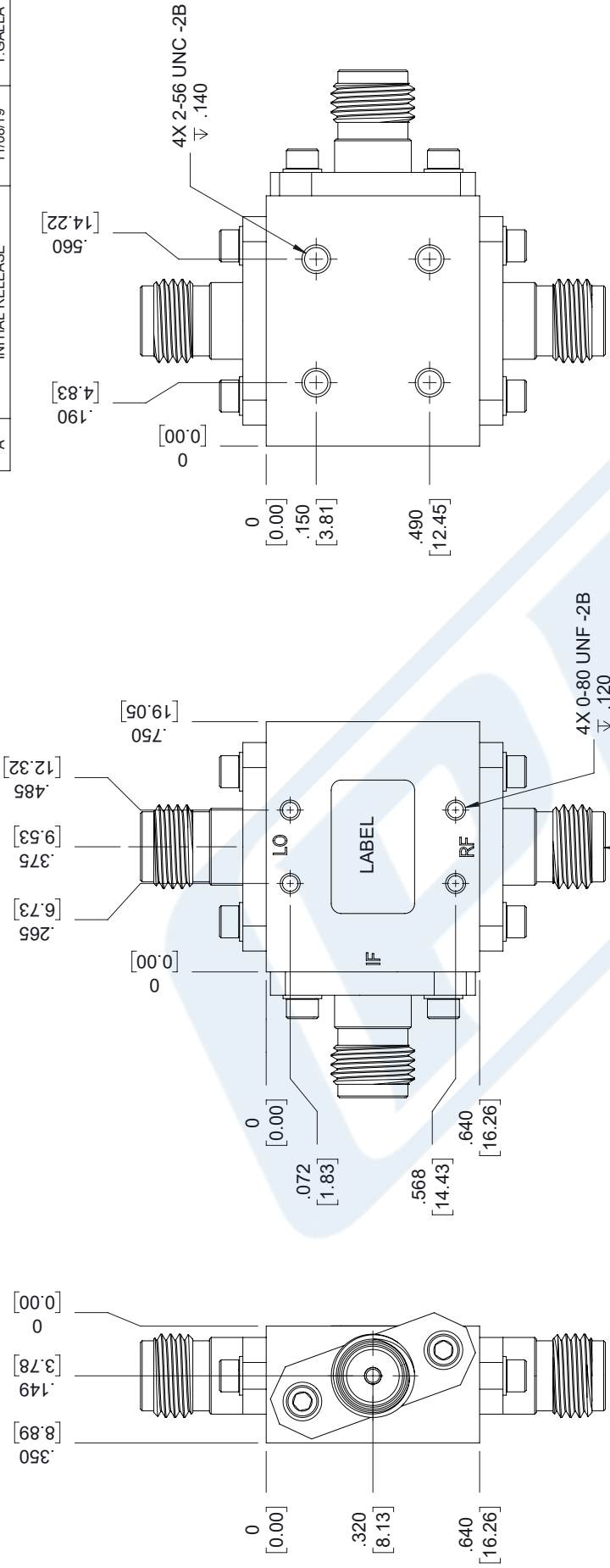
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Pasternack reserves the right to make such 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.

PE86X1006 CAD Drawing

Double Balanced Mixer Operating from 5 GHz to 20 GHz with an IF Range from DC to 3 GHz and LO Power of +20 dBm, Field Replaceable SMA

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

REVISIONS



4X 0-80 UNF -2B
 3X SMA FEMALE
 (FIELD REPLACEABLE)

<p>THIRD-ANGLE PROJECTION</p> <p>THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF PASTERNAK CORPORATION. ALL RIGHTS RESERVED.</p> <p>SHEET 1 OF 1</p> <p>SCALE N/A</p>	<p>PASTERNAK an INFINITI brand</p> <p>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</p>	REV	A		
		CAGE CODE	53919	DRAWN BY	K. Dang

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

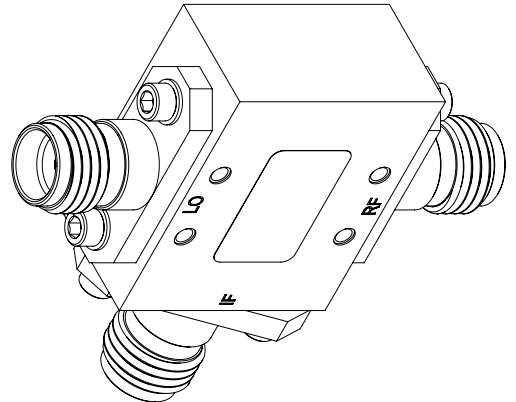
TOLERANCES:

.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.



LABEL

PASTERNAK
 PE86X1006
 D/C: YYYY

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.