

ESS2040PA3 Tunnel Diode Detector

2.0 TO 4.0 GHz Negative Polarity, SMA connector. Bias detector with 50 Ohm Male to SMA female. Video out operating from 2.0 to 4.0 GHz



PRODUCT FEATURES
Ideal for Pulse Applications
Low Video Impedance (350 ohms Typ)
Negative Video Impedance(350 ohms Typ)
Rugged and High Reliability
MIL-STD-190500 & 883 Qualified

Product Export Classification
 ECCN: EAR 99 (Unless otherwise specified)
 HTS: HTS: 85422330000

CONFIGURATION	
Bias Type	80-100 μ A Typ.
Detector Polarity, Note 3	Negative [-]
Body Style	Coaxial "A3"
RF Input Connector	SMA [Male]
RF Input Impedance	50 Ohms
Video Output Connector	SMA [Female]

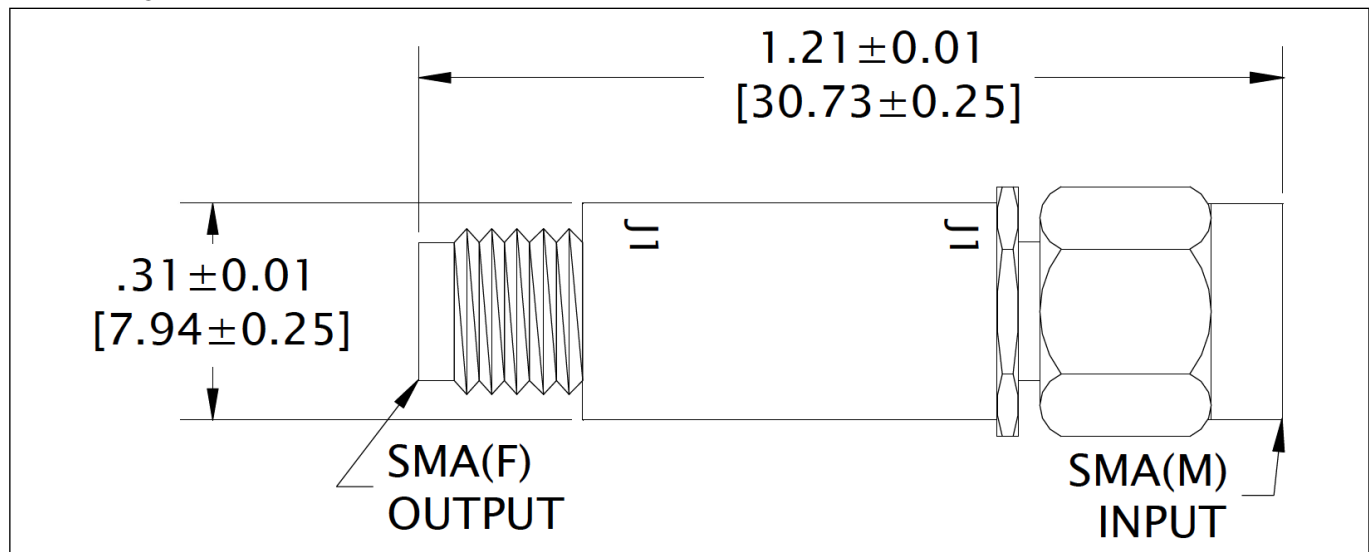
ELECTRICAL SPECIFICATIONS	
Frequency Range [GHz]	2.0 to 4.0
Voltage Sensitivity [mV/mW]	2000 (Typ)
Tss [dBm, Note 1]	-52 (Typ)
VSWR	N/A
Flatness [\pm dB]	0.5 (Max.)
Input Power Handling [dBm]	+23 (Max.)
Video Cap. [pF]	100 Nominal

Notes:

1. TSS is measured with a 2 MHz video bandwidth and 2 dB NF amplifier.
2. Typical values are measured at +25°C and are not guaranteed.
3. Negative output polarity is standard. Add P to the end of the model number for positive polarity, ESS2040PA3

MAXIMUM RATINGS	
Storage Temperature.	-65° to +150°C
Operating Temperature.	-55° to +125°C
Power Handling	200 mW CW Max.

Outline Drawing



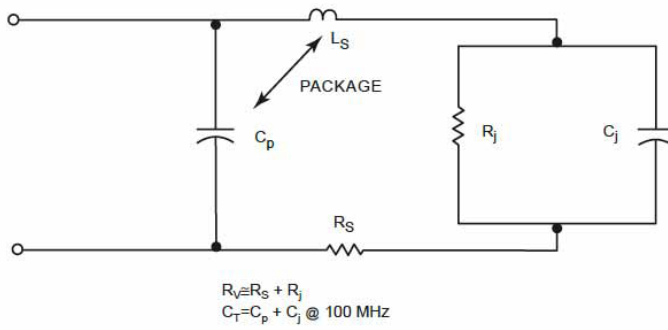
About EclipseMDI

ECLIPSE Microdevices is located in San Jose, California. ECLIPSE has been developing high performance analog semiconductors for use in wireless radio frequency (RF), microwave, and millimeter wave for commercial and industrial applications. ECLIPSE has formed a strategic alliances - with foundries that features leading state-of-the-art process technologies and with manufacturing facilities for high-volume production of innovative RFICs.

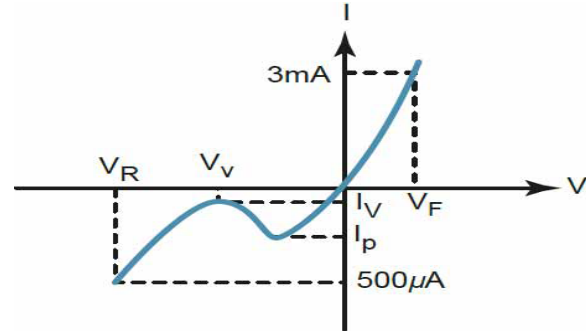
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Diode equivalent circuit



Back diode parameters



Functional Block diagram

Biased Schottky Detector Application Circuit

