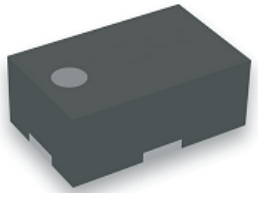
MSWSHB-020-30

PIN Diode Shunt Switch Element

Rev. V2

Features

- Supports up to 40 W Power
- Low Insertion Loss:
  - 0.2 dB to 2.7 GHz
  - 0.4 dB to 10.0 GHz
- High Isolation:
  - 30 dB to 10.0 GHz
- RoHS* Compliant



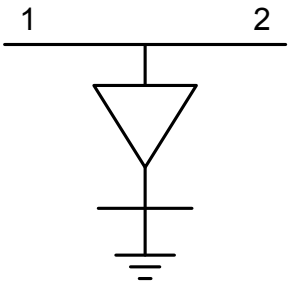
2012

Description

A broadband, high linearity, medium power shunt switch element in a 1.9 x 1.1 mm DFN package.

This device is designed for wireless telecommunications infrastructure and test instrument applications. It is also suited for other applications in 0.05 ~ 10 GHz.

Pin Out / Schematic



Ordering Information

Part Number	Package
MSWSHB-020-30	3000 piece reel

Electrical Specifications: T_A = +25°C

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Breakdown Voltage (V_B)	I_R = 10 µA	V	200	—	—
Insertion Loss (I_L)	V_R = 10 V <2.7 GH <10.0 GHz	dB	—	0.08 0.40	0.2 0.5
Isolation (I_{SO})	I_F = 20 mA <2.7 GH <10.0 GHz	dB	33 28	40 32	—
Input / Output Return Loss	V_R = 10 V <2.7 GH <10.0 GHz	dB	25 15	28 20	—
Minority Carrier Lifetime (T_L)	I_F = 10 mA, I_R = 6 mA, @ 50%	ns	—	4000	—

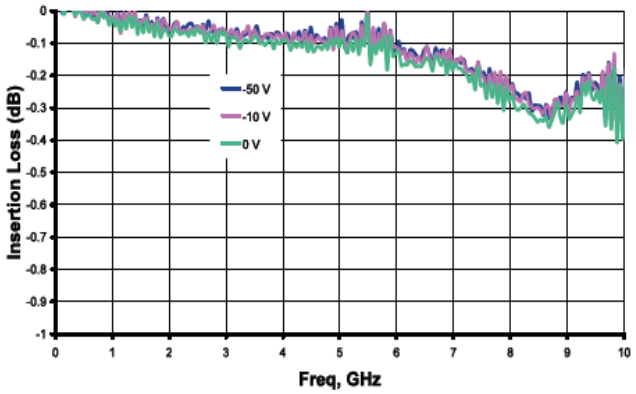
* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

Absolute Maximum Ratings

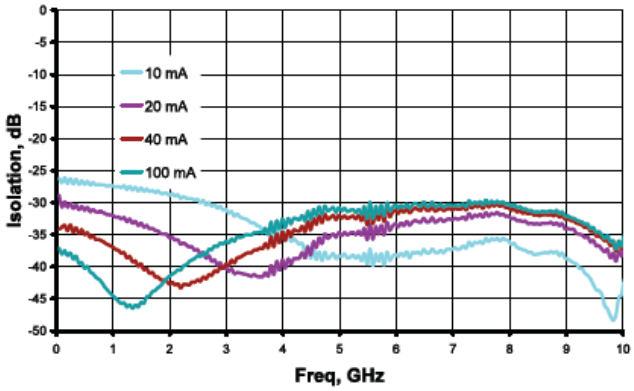
Parameter	Absolute Maximum
Breakdown Voltage	200 V
Forward Current	200 mA
Thermal Resistance	15°C/W
Junction Temperature	+175°C
Storage Temperature	-65°C to +150°C
Assembly Temperature	+260°C Per JEDEC STD-J-20C

Typical Performance Curves

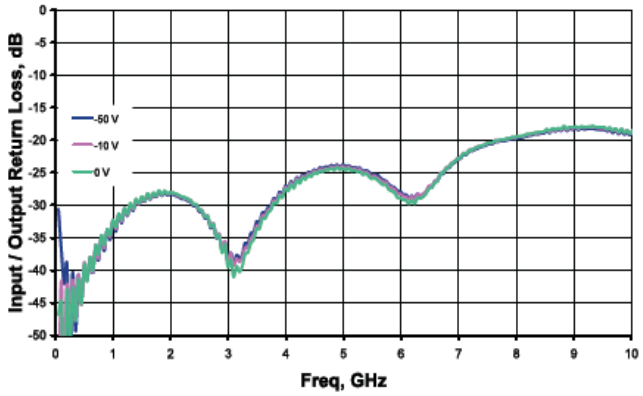
Insertion Loss



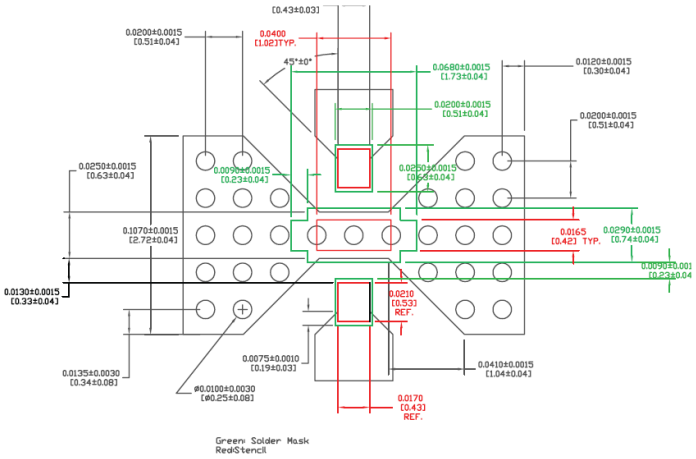
Isolation



Input Return Loss



Printed Circuit Board Layout



NOTE: If possible, use copper filled vias underneath pin 3 for better thermals; otherwise, use vias that are plated through, filled and plated over.

Solder mask should provide a 60 um clearance between copper pad and soldermask. Rounded pkg pads should have matching rounded solder mask openings.

Use circles or squares for the thermal land stencil such that only get 50% to 80% solder paste coverage.

Outline (2012)