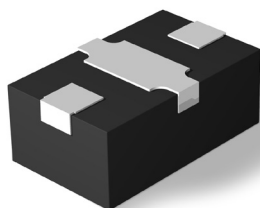


# MSWSHB-020-30

## PIN DIODE SHUNT SWITCH ELEMENT



(2012)  
Molden Plastic DFN



### 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.

### Features

- Support up to 40 watts power
- Low insertion loss typical 0.2 dB to 2.7 GHz
- Low insertion loss typical 0.4 dB to 10.0 GHz
- High Isolation 30 dB typical to 10.0 GHz

### Maximum Ratings

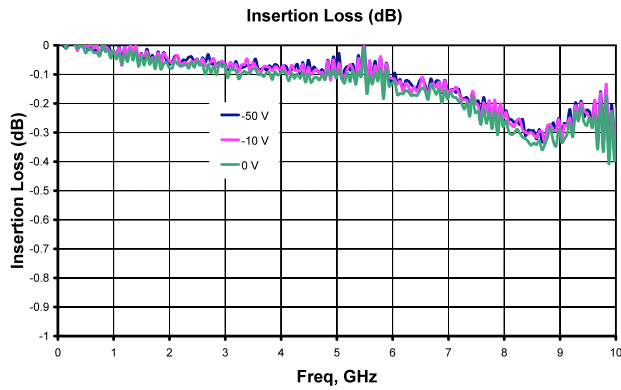
RATING	LIMITS	UNITS
$V_R$	200	V
$I_F$	200	mA
$\theta_{JC}$	15	°C / W
$T_J$	+175	°C
$T_{STG}$	-65 to +150	°C
$T_{SOLDER}$	+260 °C per JEDEC STD-J-20C	

### Electrical Characteristics, $T_c = +25\text{ °C}$

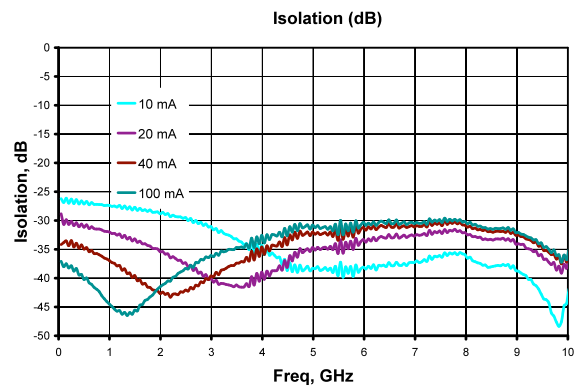
SYMBOL	TEST CONDITIONS			MIN	TYPICAL	MAX	UNITS
$V_{BR}$	$I_R = 10\text{ }\mu\text{A}$			200	–	–	V
$\tau$	$I_F = 10\text{ mA}$	$I_R = 6\text{ mA}$	measured at 50%	–	4000	–	ns
$I_L$	$V_R = 10\text{ V}$	$F < 2.7\text{ GHz}$		–	0.08	0.2	$I_L$
		$F < 10.0\text{ GHz}$		–	0.4	0.5	$I_L$
IRL/ORL	$V_R = 10\text{ V}$	$F < 2.7\text{ GHz}$		25	28	–	dB
		$F < 10.0\text{ GHz}$		15	20	–	dB
$I_{SO}$	$I_F = 20\text{ mA}$	$F < 2.7\text{ GHz}$		33	40	–	dB
		$F < 10.0\text{ GHz}$		28	32	–	dB



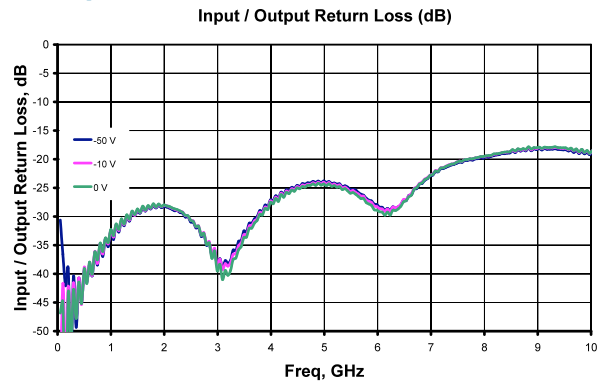
## Insertion Loss



## Isolation



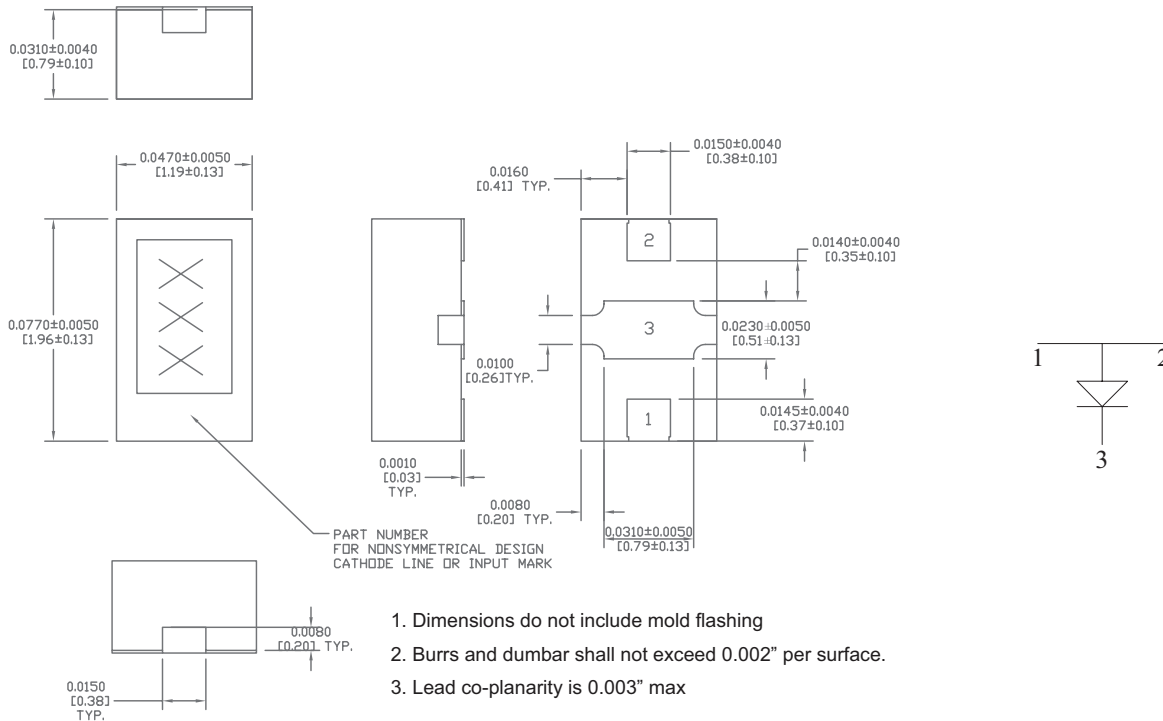
## Input Return Loss



# MSWSHB-020-30

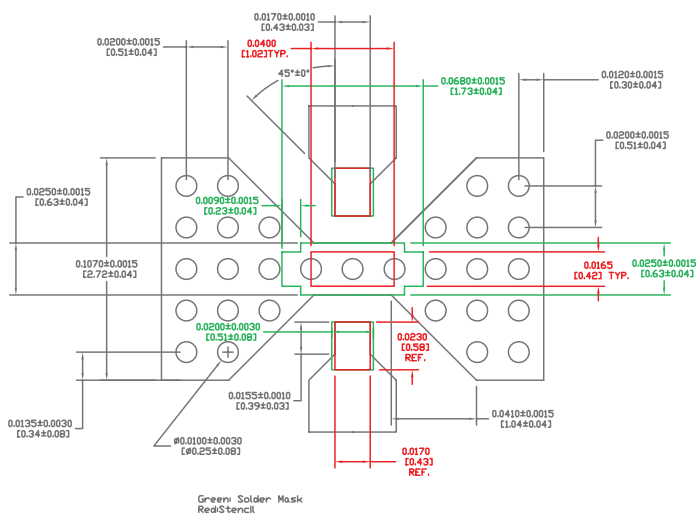


## Package Outline



Dimensions: inches [mm]

## 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.

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