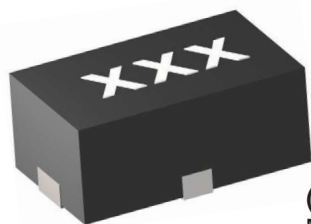


MSWSSB-020-30

PIN DIODE SHUNT SWITCH ELEMENT



(2012)
Molden Plastic DFN



Description

A broadband, High Linearity medium power series shunt switch element in a 1.9X 1.1 mm DFN package. This device is designed for wireless Telecommunication infrastructure and test instrument applications. It is also suited for other applications in 0.1 ~ 10 GHz.

Features

- Supports up to 20 watt
- Low insertion loss typical 0.3 dB @ 2.7 GHz
- Low insertion loss typical 0.4 dB @ 10.0 GHz
- High Isolation typical 55 dB @ 2.7 GHz
- High Isolation typical 33 dB @ 10.0 GHz

Maximum Ratings

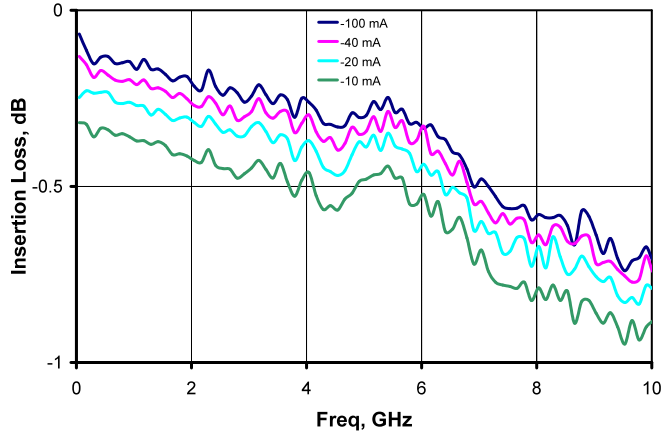
RATING	LIMITS	UNITS
V_R	200	V
I_F	100	mA
In. Power	20 (CW)	Watts
T_J	+175	°C
T_{STG}	-65 to +150	°C
T_{SOLDER}	+260 °C per JEDEC STD-J-20C	

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

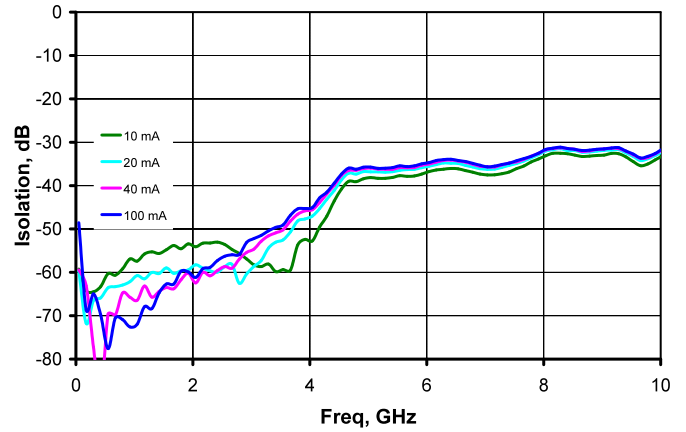
SYMBOL	TEST CONDITIONS		MIN	TYPICAL	MAX	UNITS	
V_{BR}	$I_R = 10\ \mu A$		200	–	–	V	
C_J	$V_R = 50\ V$	Freq = 1 MHz	Shunt	---	0.26	---	pF
			Series	---	0.048	---	pF
R_S	$I_F = 100\ mA$	Freq = 500 MHz	Shunt	---	0.40	---	Ohms
			Series	---	0.98	---	Ohms
τ	$I_F = 10\ mA, I_R = 6\ mA, 10\%/90\%$		Shunt	---	4300	8000	ns
			Series	---	150	250	ns
I_L	$I = -50\ mA^*$	F = 2.3 ~ 2.7 GHz	–	0.3	0.5	dB	
		F < 10 GHz	---	0.6	0.8	dB	
IRL	$I = -50\ mA^*$	F = 2.3 ~ 2.7 GHz	20	25	–	Ω	
		F < 10 GHz	15	20	–	Ω	
ORL	$I = -50\ mA^*$	F = 2.3 ~ 2.7 GHz	20	25	–	dB	
		F < 10 GHz	15	18	–	dB	
I_{SO}	$I = +50\ mA^*$	F < 2.3 ~ 2.7 GHz	45	55	–	dB	
		F < 10 GHz	28	35	–	dB	

* Positive current is defined as current going into PIN 2.

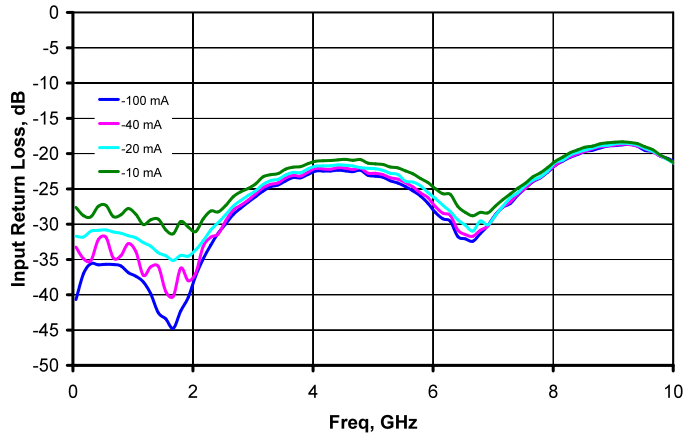
R-F Performance Insertion Loss



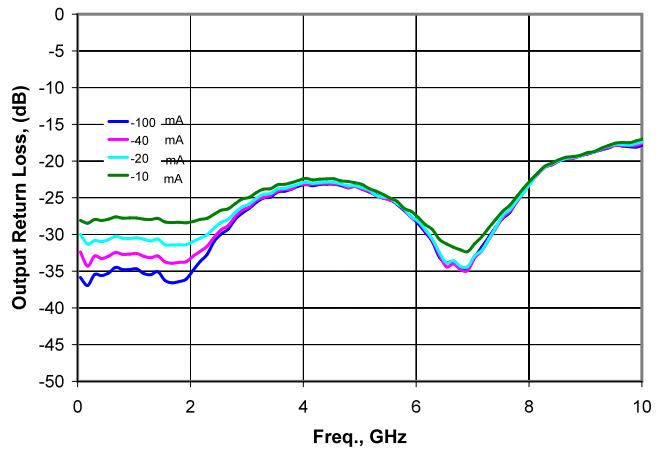
R-F Performance Isolation



R-F Performance Input Return Loss



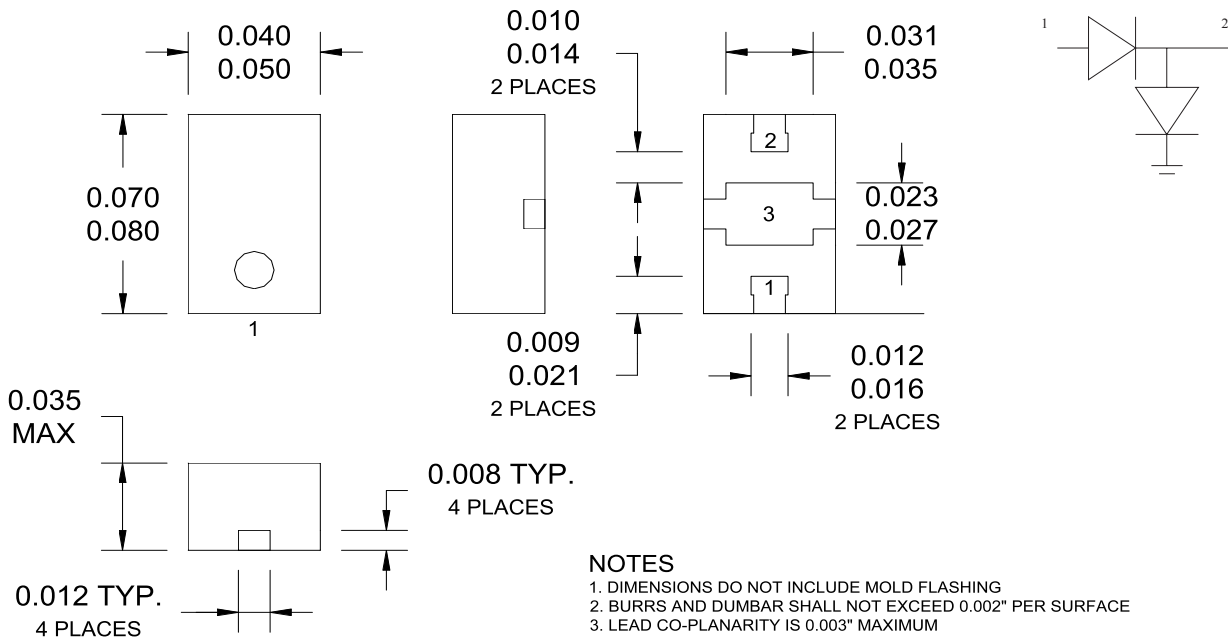
R-F Performance Output Return Loss



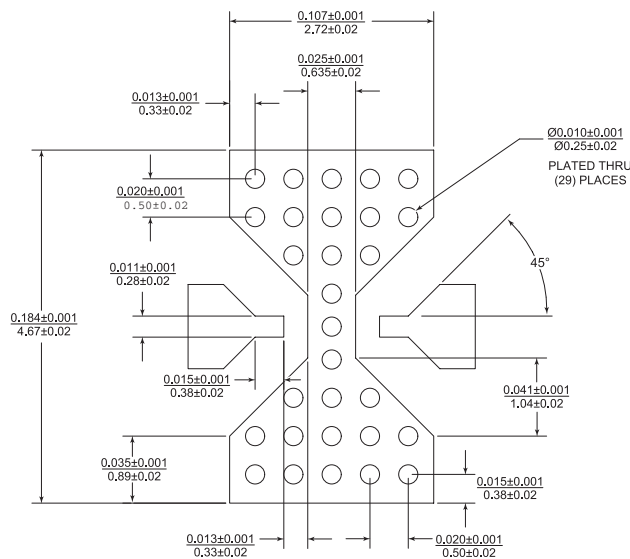
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Package Outline



Printed Circuit Board Layout



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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.