## MSWSER-100-05 SILICON PIN DIODE SWITCH ELEMENT



(DFN 3023) non-hermetic

## **Description**

The MSWSER-100-05 is a PIN diode SPST switch element designed for medium incident power applications, up to 80 W C.W. It has low insertion loss.



#### **Features**

- Broadband performance up to 0.8 GHz
- Low Insertion Loss
- Cost effective choice for switch applications

A passion for performance.

## **Maximum Ratings**

RATING	LIMITS	UNITS
V <sub>R</sub>	500	V
I <sub>F</sub>	500	mA
θ <sub>JC</sub>	10	°C / W
T	+175	°C
T <sub>STG</sub>	-55 to +150	°C
T <sub>SOLDER</sub>	+260 °C per JEDEC STD-J-20C	

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

SYMBOL	-	MIN	TYPICAL	MAX	UNITS		
V <sub>BR</sub>	$I_{_{R}} = 10 \ \mu A$		500	_	-	V	
V <sub>F</sub>	$I_{\rm F} = 50 \text{ mA}$		850	950	mV		
C <sub>T</sub>	$V_{R} = -50$ Volts		F = 1 MHz		0.65	0.75	pF
R <sub>s</sub>	$I_{F} = 100 \text{ mA}$		F = 100 MHz		0.28	0.40	Ω
R <sub>P</sub>	$V_{R} = -50 V$		F = 0.5 MHz	20K	52K		Ω
τ	$I_{\rm F}$ = 10 mA	$I_{R} = 6 \text{ mA}$	measured at 50%		4000		ns
W	I-Layer				90		μ <b>m</b>
I,	I <sub>F</sub> = 100 mA		F = 0.4  GHz	_	0.10	0.20	dB
			F < 0.8 GHz		0.15	0.30	dB
IRL/ORL	I <sub>F</sub> = 100 mA		F = 0.4  GHz	27	32	_	dB
			F < 0.8 GHz	20	25	_	dB
I <sub>so</sub>	$V_{R} = 10$ Volts		F = 0.4  GHz	14	16	_	dB
			F < 0.8 GHz	8	10	_	dB





MSWSER-100-05

#### **Insertion Loss**



#### Isolation



## **Input Return Loss**



#### Series Resistance vs Current



# MSWSER-100-05



### **Package Outline**



Dimensions: inches [mm]

Finish: 300 micro inches matte Tin, annealed 1 hour 150° C

#### **Printed Circuit Board Layout**



#### Junction Temperature vs Power Mounted on Heat Sink 25°C Ambient 1.3 GHz



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