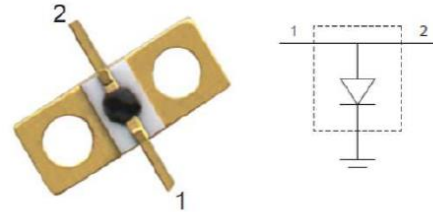


RELEASED



RFuW Engineering Pte. Ltd.



MSWSH-100-30

300W Electrical Shunt Diode, Bolt Down Package

Features:

- | | |
|---------------------------|--------------|
| • Average Power Handling: | 300W |
| • VBR: | 700V |
| • V_F : | 850 mV |
| • C_J : | 0.4 pF |
| • R_s : | 0.4 Ω |
| • TL: | 3.4 usec |
| • Θ_{JC} : | 5 °C/W |
| • RoHS Compliant | |

Description:

The MSWSH-100-30 Shunt Switch, Bolt Down Package is rated to handle up to 300W (CW). This Copper Bolt Down package is designed to reliably handle up to 300W (CW) and is usable up to 6 GHz.

Typical Applications:

- Radar T/R Modules
- Switch Bank Filters
- Mil-Com Radios

The MSWSH-100-30 switch elements are fully RoHS compliant.

ESD and Moisture Sensitivity Level Rating:

The MSWSH-100-30 carries an ESD rating of Class 1C, Human Body Model (HBM) and a moisture sensitivity rating of MSL 1.

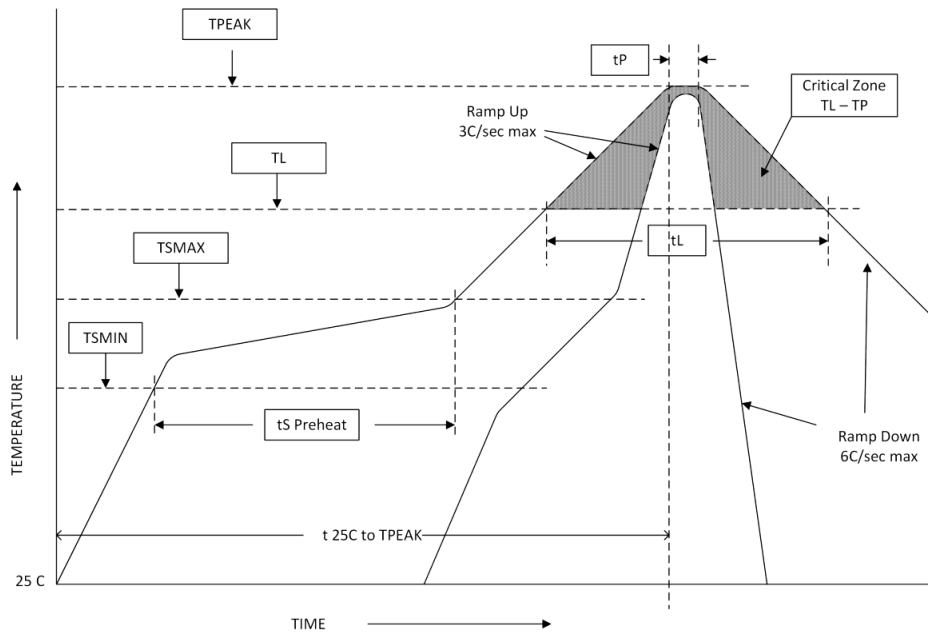
MSWSH-100-30 Specifications @ $Z_0 = 50\Omega$; $T_a = +25^\circ\text{C}$

Parameter	Symbol	Unit	Test Conditions	Min Value	Typical Value	Max Value
Voltage Breakdown	V_{BR}	V	$I_R=10\mu\text{A}$	700		
Voltage Forward	V_F	mV	$I_F=100\text{mA}$		850	
Junction Capacitance	C_J	pF	$V_R=50\text{V}$, $F = 1\text{MHz}$		0.4	
Series Resistance	R_s	Ω	$I_F=100\text{mA}$; $F=500\text{MHz}$		0.4	0.6
Life Time	TL:	usec	$I_F=10\text{mA}$; $I_R=6\text{mA}$		3,400	
Insertion Loss	IL	dB	$V_R=50\text{V}$; $F<2.4\text{ GHz}$		0.15	0.25
Insertion Loss	IL	dB	$V_R=50\text{V}$; $F<6.0\text{ GHz}$		0.35	0.45
Return Loss	RL	dB	$V_R=50\text{V}$; $F = 2.4\text{ GHz}$	15	22	
Return Loss	RL	dB	$V_R=50\text{V}$; $F = 6.0\text{ GHz}$	10	15	
Isolation	ISO	dB	$I_f=100\text{mA}$; $F<2.4\text{ GHz}$	28	31	
Isolation	ISO	dB	$I_f=100\text{mA}$; $F<6.0\text{ GHz}$	23	26	

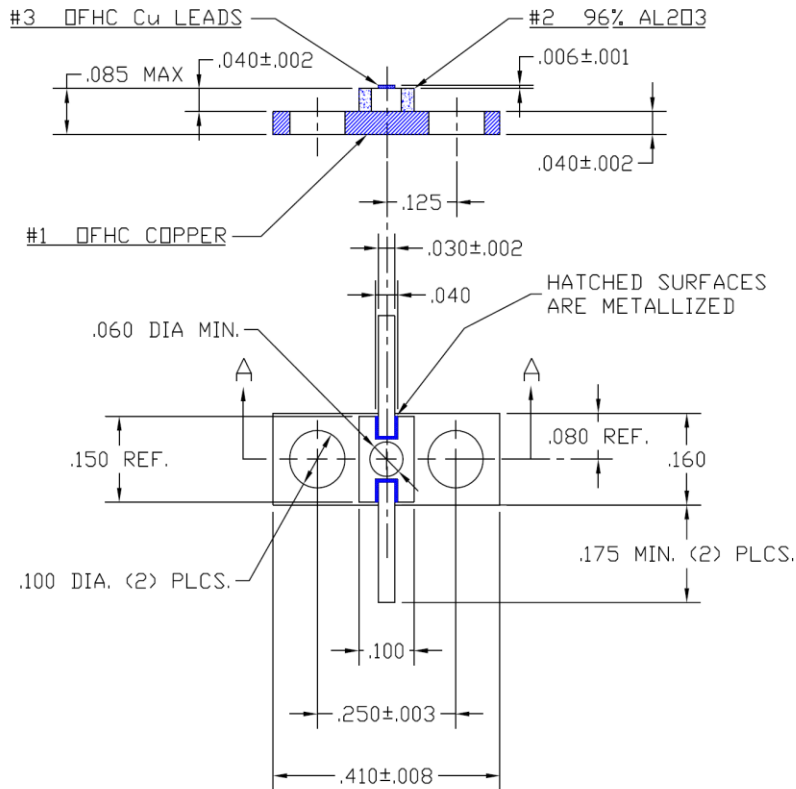
MSWSH-100-30 Absolute Maximum Ratings @ $T_A = +25^\circ\text{C}$ (unless otherwise denoted)

Parameter	Absolute Maximum Value
Reverse Voltage	700V
Forward Current	1,000 mA
θ_{JC}	5 $^\circ\text{C/W}$
Storage Temperature	-65 $^\circ\text{C}$ to +150 $^\circ\text{C}$
Junction Temperature	+175 $^\circ\text{C}$
Assembly Temperature	+230 $^\circ\text{C}$ for 30 seconds

Solder Re-Flow Time-Temperature Profile



MSWSH-100-30 Package



MSWSH-100-30 Evaluation Board

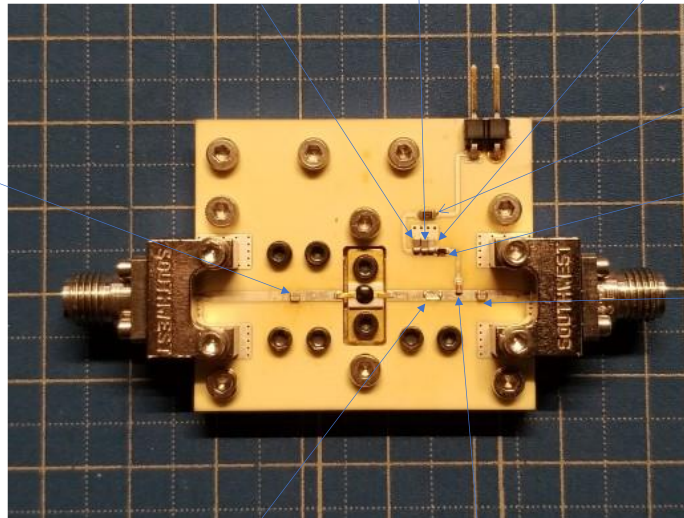
MSWSH-100-30
(DOE DIE-5)
Rogers 4003C, 20 mils,
2-layer, 1 oz cu, silver
immersion finish

RF Coupling Cap, C1

RF Bypass Cap, C5

RF Bypass Cap, C4

RF Bypass Cap, C3



Current Limiting Resistor
VISHAY, Thick Film
R1, 0.25W, 100 ohms, 5%
RCS0603100RJNEA

RF Inductor Choke, L2

RF Coupling Cap, C2

Jumper (1 oz copper foil)

RF Inductor Choke, L1