Santa Ana, CA
Microsemi
Progress Powered by Technology

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MSASC100W45H
MSASC100W45HR
Or
1N6791

45 Volts
100 Amps

SURFACE MOUNT
LOW LEAKAGE
SCHOTTKY DIODE

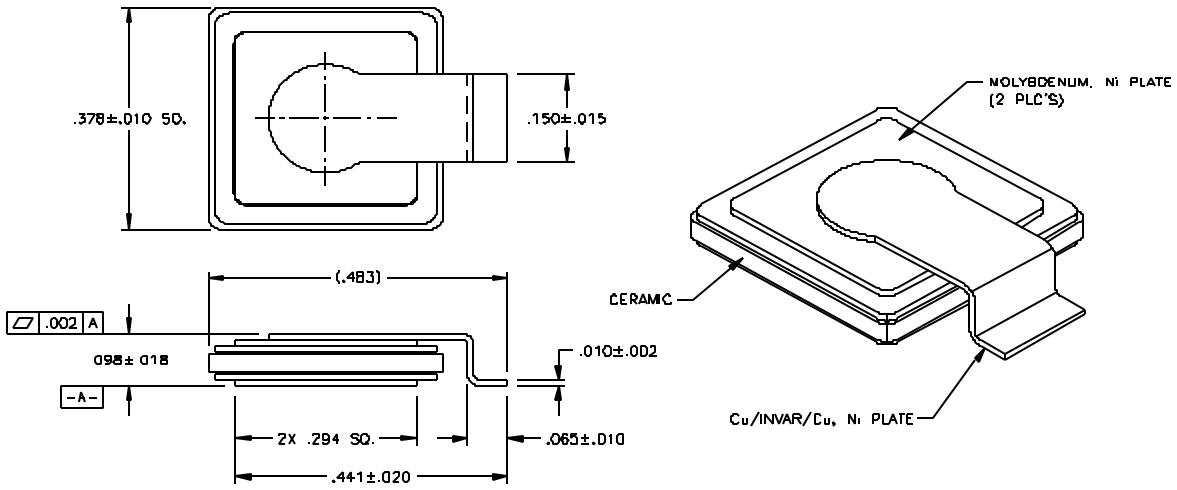
Features

- Tungsten schottky barrier
- Oxide passivated structure for very low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap-to-anode, MSASC100W45H) and reverse polarity (strap-to-cathode: MSASC100W45HR)

Maximum Ratings @ 25 °C (unless otherwise specified)

DESCRIPTION	SYMBOL	MAX.	UNIT
Peak Repetitive Reverse Voltage	V_{RRM}	45	Volts
Working Peak Reverse Voltage	V_{RWM}	45	Volts
DC Blocking Voltage	V_R	45	Volts
Average Rectified Forward Current, Tc≤ 145°C	$I_{F(ave)}$	100	Amps
derating, forward current, Tc≥ 145°C	dI_F/dT	3.3	Amps/°C
Nonrepetitive Peak Surge Current, tp= 8.3 ms, half-sinewave	I_{FSM}	500	Amps
Peak Repetitive Reverse Surge Current, tp= 1µs, f= 1kHz	I_{RRM}	2	Amp
Junction Temperature Range	T_j	-65 to +175	°C
Storage Temperature Range	T_{stg}	-65 to +175	°C
Thermal Resistance, Junction to Case: MSASC100W45H MSASC100W45HR	θ_{JC}	0.35 0.5	°C/W

Mechanical



MSASC100W45H
MSASC100W45HR

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Power Matters. Powered by Technology

Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	IR_{25}	VR= 45 Vdc, Tc= 25°C		.01	1	mA
	IR_{125}	VR= 45 Vdc, Tc= 125°C		10	100	mA
Forward Voltage pulse test, pw= 300 µs d/c≤ 2%	VF1	IF= 10A, Tc= 25°C		500	550	mV
	VF2	IF= 20A, Tc= 25°C		560	600	mV
	VF3	IF= 40A, Tc= 25°C		610	675	mV
	VF4	IF= 80A, Tc= 25°C		740	800	mV
	VF5	IF= 100A, Tc= 25°C		800		mV
	VF6	IF= 20A, Tc= -55°C		650	700	mV
	VF7	IF= 20A, Tc= 125°C		450		mV
Junction Capacitance	Cj1	VR= 10 Vdc		2500	3000	pF
	Cj2	VR= 5 Vdc		3500		pF
Breakdown Voltage	BVR	IR= 5 mA, Tc= 25°C		55		V
		IR= 5 mA, Tc= -55°C	45	50		V

VF vs IF Typical Curves