

MSASC100W45H
MSASC100W45HR
Or
1N6791

45 Volts
100 Amps

SURFACE MOUNT
LOW LEAKAGE
SCHOTTKY DIODE

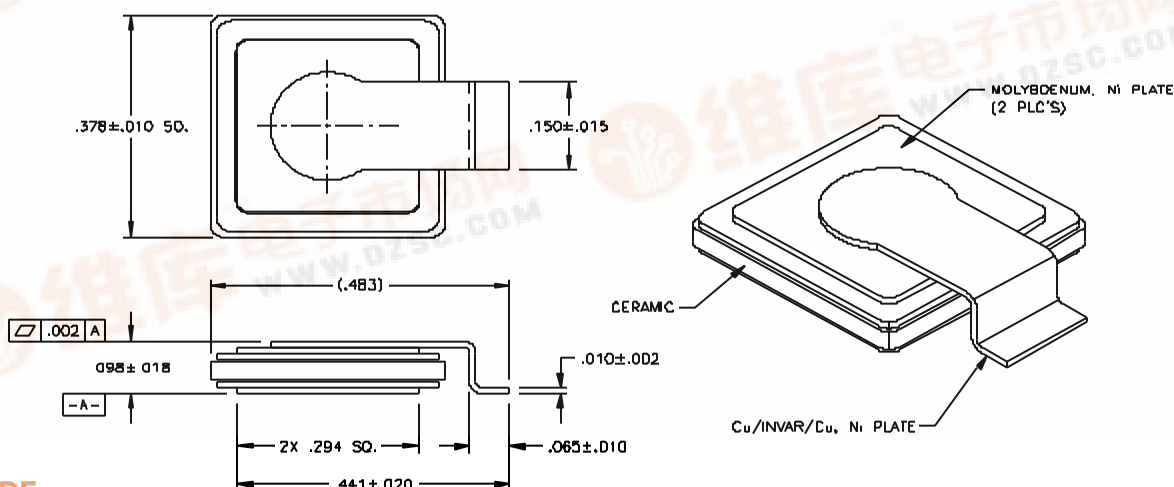
Features

- 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, $T_c \leq 145^\circ\text{C}$	$I_{F(ave)}$	100	Amps
derating, forward current, $T_c \geq 145^\circ\text{C}$	di_F/dT	3.3	Amps/ $^\circ\text{C}$
Nonrepetitive Peak Surge Current, $t_p = 8.3$ ms, half-sinewave	I_{FSM}	500	Amps
Peak Repetitive Reverse Surge Current, $t_p = 1\mu\text{s}$, $f = 1\text{kHz}$	I_{RRM}	2	Amp
Junction Temperature Range	T_j	-65 to +175	$^\circ\text{C}$
Storage Temperature Range	T_{stg}	-65 to +175	$^\circ\text{C}$
Thermal Resistance, Junction to Case: MSASC100W45H MSASC100W45HR	θ_{JC}	0.35 0.5	$^\circ\text{C/W}$

Mechanical



MSASC100W45H MSASC100W45HR

Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	$I_{R_{25}}$	$V_R = 45 \text{ Vdc}$, $T_c = 25^\circ\text{C}$		.01	1	mA
	$I_{R_{125}}$	$V_R = 45 \text{ Vdc}$, $T_c = 125^\circ\text{C}$		10	100	mA
Forward Voltage pulse test, $p_w = 300 \mu\text{s}$ $d/c \leq 2\%$	VF1	$I_F = 10\text{A}$, $T_c = 25^\circ\text{C}$		500	550	mV
	VF2	$I_F = 20\text{A}$, $T_c = 25^\circ\text{C}$		560	600	mV
	VF3	$I_F = 40\text{A}$, $T_c = 25^\circ\text{C}$		610	675	mV
	VF4	$I_F = 80\text{A}$, $T_c = 25^\circ\text{C}$		740	800	mV
	VF5	$I_F = 100\text{A}$, $T_c = 25^\circ\text{C}$		800		mV
	VF6	$I_F = 20\text{A}$, $T_c = -55^\circ\text{C}$		650	700	mV
	VF7	$I_F = 20\text{A}$, $T_c = 125^\circ\text{C}$		450		mV
Junction Capacitance	Cj1	$V_R = 10 \text{ Vdc}$		2500	3000	pF
	Cj2	$V_R = 5 \text{ Vdc}$		3500		pF
Breakdown Voltage	BVR	$I_R = 5 \text{ mA}$, $T_c = 25^\circ\text{C}$		55		V
		$I_R = 5 \text{ mA}$, $T_c = -55^\circ\text{C}$	45	50		V

VF vs IF Typical Curves

