

# MSASC75W100F (1N6820)

## Features

- Tungsten/Platinum schottky barrier
- Oxide passivated structure for 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
- Very low thermal resistance and low package inductance
- Available as reverse polarity, strap-to-cathode: MSASC75W100FR (1N6820R)
- TXV-level (MSASC75W100FV) or S-level (MSASC75W100FS) screening i.a.w. Microsemi Internal Procedure PS11.50 available

**100 Volts  
75 Amps**

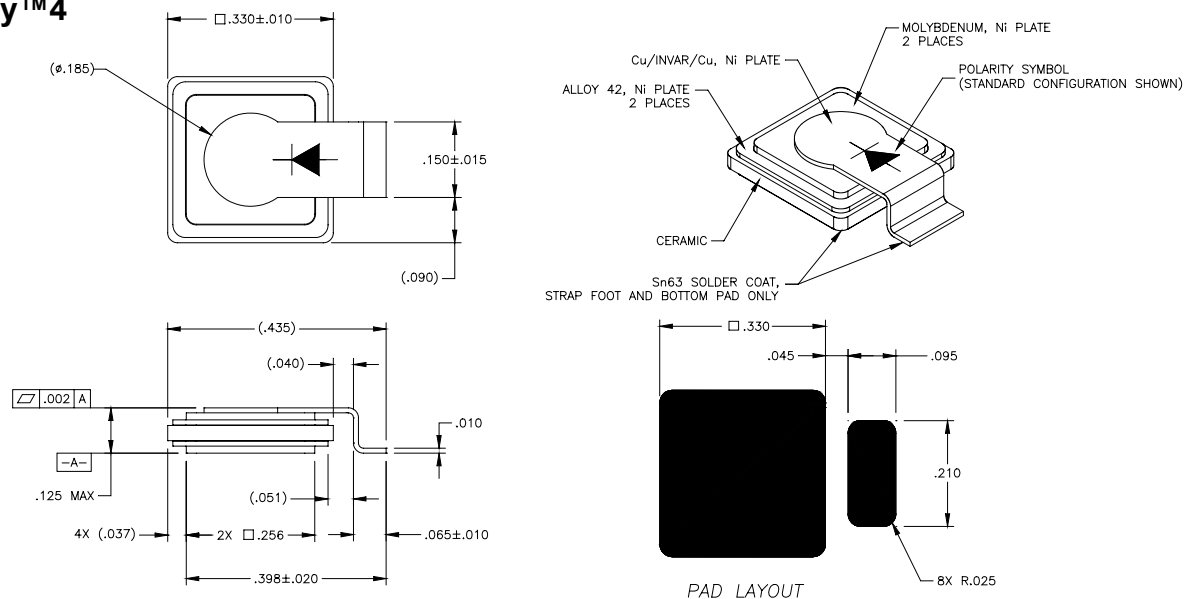
**LOW REVERSE  
LEAKAGE  
SCHOTTKY DIODE**

## Maximum Ratings @ 25°C (unless otherwise specified)

DESCRIPTION	SYMBOL	MAX.	UNIT
Peak Repetitive Reverse Voltage	$V_{RRM}$	100	Volts
Working Peak Reverse Voltage	$V_{RWM}$	100	Volts
DC Blocking Voltage	$V_R$	100	Volts
Average Rectified Forward Current, $T_c \leq 125^\circ\text{C}$	$I_{F(ave)}$	75	Amps
derating, forward current, $T_c \geq 125^\circ\text{C}$	$dI_F/dT$	4	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	$T_j$	-55 to +175	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +175	$^\circ\text{C}$
Thermal Resistance, Junction to Case:			
	MSASC75W100F	0.50	$^\circ\text{C/W}$
	MSASC75W100FR	0.65	

## Mechanical Outline

### ThinKey™ 4

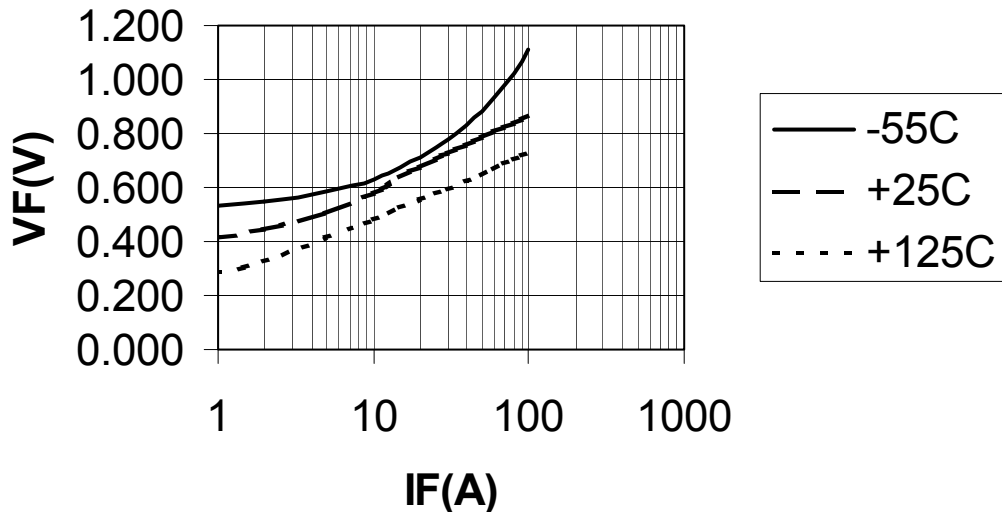


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(1N6820)

## Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage)	IR <sub>25</sub>	VR= 100 Vdc, Tc= 25°C		10	500	uA
	IR <sub>125-1</sub>	VR= 24 Vdc, Tc= 125°C		1.25	-	mA
Current	IR <sub>125-2</sub>	VR= 80 Vdc, Tc= 125°C		2.5	-	mA
	IR <sub>125</sub>	VR= 100 Vdc, Tc= 125°C		4	50	mA
Forward Voltage pulse test, pw= 300 μs d/c≤ 2%	VF1	IF= 2 A, Tc= 25°C		450	-	mV
	VF2	IF= 10 A, Tc= 25°C		590	650	mV
	VF3	IF= 25 A, Tc= 25°C		710	780	mV
	VF4	IF= 50 A, Tc= 25°C		790	-	mV
	VF5	IF= 75 A, Tc= 25°C		840	920	mV
	VF6	IF= 100 A, Tc= 25°C		875	-	mV
	VF7	IF= 2 A, Tc= -55°C		555	-	mV
	VF8	IF= 10 A, Tc= -55°C		645	710	MV
	VF9	IF= 25 A, Tc= -55°C		760	840	MV
	VF10	IF= 50 A, Tc= -55°C		900	-	MV
	VF11	IF= 75 A, Tc= -55°C		1020	1100	mV
	VF12	IF= 2 A, Tc= 125°C		340	-	MV
	VF13	IF= 10 A, Tc= 125°C		495	550	MV
	VF14	IF= 25 A, Tc= 125°C		585	660	MV
	VF15	IF= 50 A, Tc= 125°C		655	-	MV
	VF16	IF= 75 A, Tc= 125°C		700	780	mV
	VF <sub>a</sub>	IF= 100 mA, Tc= 25°C		350	-	mV
VF <sub>b</sub>	IF= 100 mA, Tc= 125°C		200	-	mV	
VF <sub>c</sub>	IF= 100 mA, Tc= -55°C		480	-	mV	
Junction Capacitance	Cj1	VR= 10 Vdc		1100	-	pF
	Cj2	VR= 5 Vdc		1500	1600	pF
Breakdown Voltage	BVR	IR= 5 mA, Tc= 25°C		115		V
		IR= 5 mA, Tc= -55°C	100	110		V





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