

**1N6820**  
**(MSASC75W100F)**

**1N6820R**  
**(MSASC75W100FR)**

**Features**

- Tungsten schottky barrier for low VF
- 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 is anode: 1N6820) and reverse polarity (strap is cathode: 1N6820R)

**100 Volts**  
**75 Amps**

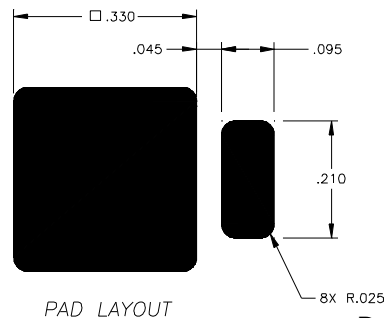
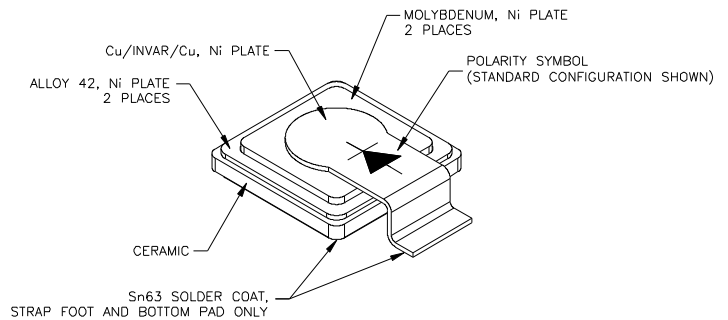
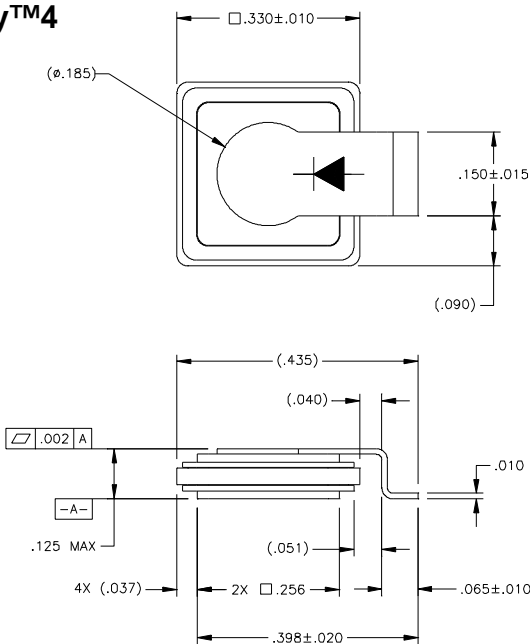
**LOW REVERSE  
 LEAKAGE  
 SCHOTTKY DIODE**

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

DESCRIPTION	SYMBOL	MAX.	UNIT
Peak Repetitive Reverse Voltage	$V_{RRM}$	45	Volts
Working Peak Reverse Voltage	$V_{RWM}$	45	Volts
DC Blocking Voltage	$V_R$	45	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, $t_p = 1\mu\text{s}$ , $f = 1$ kHz	$I_{RRM}$	2	Amp
Junction Temperature Range	$T_j$	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-55 to +150	$^\circ\text{C}$
Thermal Resistance, Junction to Case:	$\theta_{JC}$	0.50 0.65	$^\circ\text{C/W}$
	1N6820 1N6820R		

**Mechanical Outline**

**ThinKey™4**



# 1N6820 (MSASC75W100F) 1N6820R (MSASC75W100FR)

## 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	-
	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		1400	1600	pF
Breakdown Voltage	BVR	IR= 5 mA, Tc= 25°C		115		V
		IR= 5 mA, Tc= -55°C	100	110		V

