Santa Ana, CA
Microsemi
Progress Powered by Technology

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MSASC75W100F
(1N6820)

100 Volts
75 Amps

LOW REVERSE LEAKAGE SCHOTTKY DIODE

Features

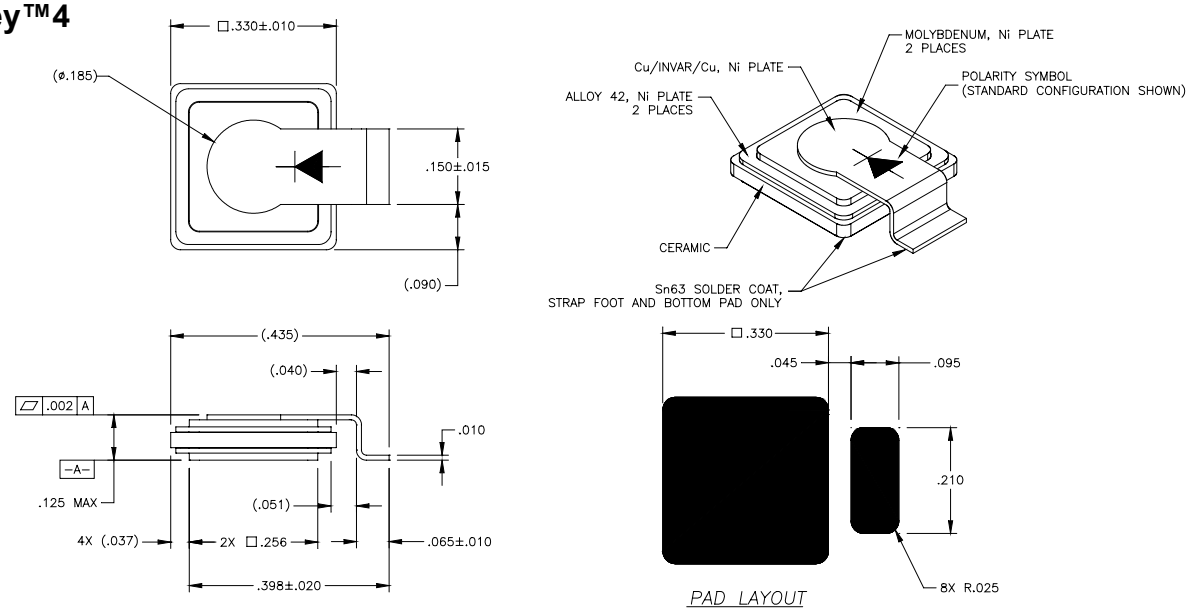
- Tungsten/Platinum schottky barrier
- Oxide passivated structure for low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Very low thermal resistance 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

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, Tc≤ 125°C		$I_{F(ave)}$	75	Amps
derating, forward current, Tc≥ 125°C		dI_F/dT	4	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	-55 to +175	°C
Storage Temperature Range		T_{stg}	-55 to +175	°C
Thermal Resistance, Junction to Case:	MSASC75W100F MSASC75W100FR	θ_{JC}	0.50 0.65	°C/W

Mechanical Outline

ThinKey™4



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Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage)	IR_{25}	VR= 100 Vdc, Tc= 25°C		10	500	uA
	IR_{125-1}	VR= 24 Vdc, Tc= 125°C		1.25	-	mA
Current	IR_{125-2}	VR= 80 Vdc, Tc= 125°C		2.5	-	mA
	IR_{125}	VR= 100 Vdc, Tc= 125°C		4	50	mA
Forward Voltage	VF1	IF= 2 A, Tc= 25°C		450	-	mV
pulse test,	VF2	IF= 10 A, Tc= 25°C		590	650	mV
pw= 300 μs	VF3	IF= 25 A, Tc= 25°C		710	780	mV
d/c≤ 2%	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
	VFa	IF= 100 mA, Tc= 25°C		350	-	mV
	VFb	IF= 100 mA, Tc= 125°C		200	-	mV
	VFc	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