Santa Ana, CA
Microsemi
Progress Powered by Technology

2830 S. Fairview St.
Santa Ana, CA 92704
PH: (714) 979-8220
FAX: (714) 966-5256

1N6819
(MSASC75W45F)
1N6819R
(MSASC75W45FR)

PRELIMINARY

45 Volts
75 Amps

LOW LEAKAGE CURRENT SCHOTTKY DIODE

Features

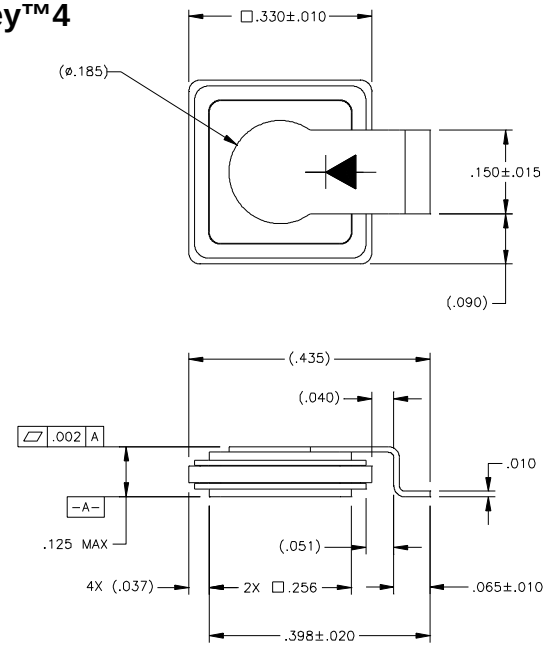
- Tungsten schottky barrier
- Oxide passivated structure for very low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap is anode: 1N6819) and reverse polarity (strap is cathode: 1N6819R)

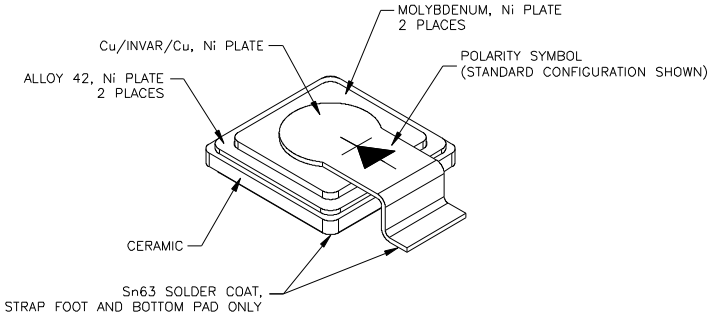
Maximum Ratings @ 25℃ (unless otherwise specified)

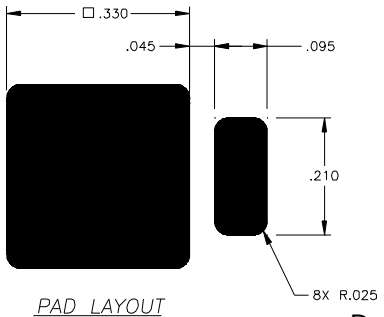
DESCRIPTION		SYMBOL	MAX.	UNIT
Peak Repetitive Reverse Voltage		V_{RRM}	45	Volts
Working Peak Reverse Voltage		V_{RWM}	45	Volts
DC Blocking Voltage		V_R	45	Volts
Average Rectified Forward Current, Tc≤ 125°C		$I_{F(ave)}$	75	Amps
derating, forward current, Tc≥ 125°C		dI_F/dT	4	Amps/°C
Nonrepetitive Peak 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 +150	°C
Storage Temperature Range		T_{stg}	-55 to +150	°C
Thermal Resistance, Junction to Case:	1N6819 1N6819R	θ_{JC}	0.50 0.65	°C/W

Mechanical Outline

ThinKey™4







PAD LAYOUT

Datasheet# MSC1030A

1N6819 (MSASC75W45F)
1N6819R (MSASC75W45FR)

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Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage)	IR_{25}	VR= 45 Vdc, Tc= 25°C		100	750	uA
	IR_{125-1}	VR= 12 Vdc, Tc= 125°C		1	-	mA
Current	IR_{125-2}	VR= 36 Vdc, Tc= 125°C		2.5	-	mA
	IR_{125}	VR= 45 Vdc, Tc= 125°C		4	50	mA
Forward Voltage	VF1	IF= 2 A, Tc= 25°C		435	-	mV
pulse test,	VF2	IF= 10 A, Tc= 25°C		500	550	mV
pw= 300 µs	VF3	IF= 25 A, Tc= 25°C		550	625	mV
d/c≤ 2%	VF4	IF= 50 A, Tc= 25°C		625	-	mV
	VF5	IF= 75 A, Tc= 25°C		685	760	mV
	VF6	IF= 100 A, Tc= 25°C		725	-	mV
	VF7	IF= 2 A, Tc= -55°C		550	-	mV
	VF8	IF= 10 A, Tc= -55°C		600	660	MV
	VF9	IF= 25 A, Tc= -55°C		630	700	MV
	VF10	IF= 50 A, Tc= -55°C		675	-	MV
	VF11	IF= 75 A, Tc= -55°C		715	800	mV
	VF12	IF= 2 A, Tc= 125°C		300	-	MV
	VF13	IF= 10 A, Tc= 125°C		385	440	MV
	VF14	IF= 25 A, Tc= 125°C		460	540	MV
	VF15	IF= 50 A, Tc= 125°C		540	-	MV
	VF16	IF= 75 A, Tc= 125°C		590	675	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		485	-	mV
Junction Capacitance	Cj1	VR= 10 Vdc		1900	-	pF
	Cj2	VR= 5 Vdc		2500	3000	pF
Breakdown Voltage	BVR	IR= 5 mA, Tc= 25°C		55		V
		IR= 5 mA, Tc= -55°C	45	47		V