Santa Ana, CA
Microsemi
Progress Powered by Technology

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MSASC25W45K (1N6816) MSASC25W45KR (1N6816R)

45 Volts
25 Amps

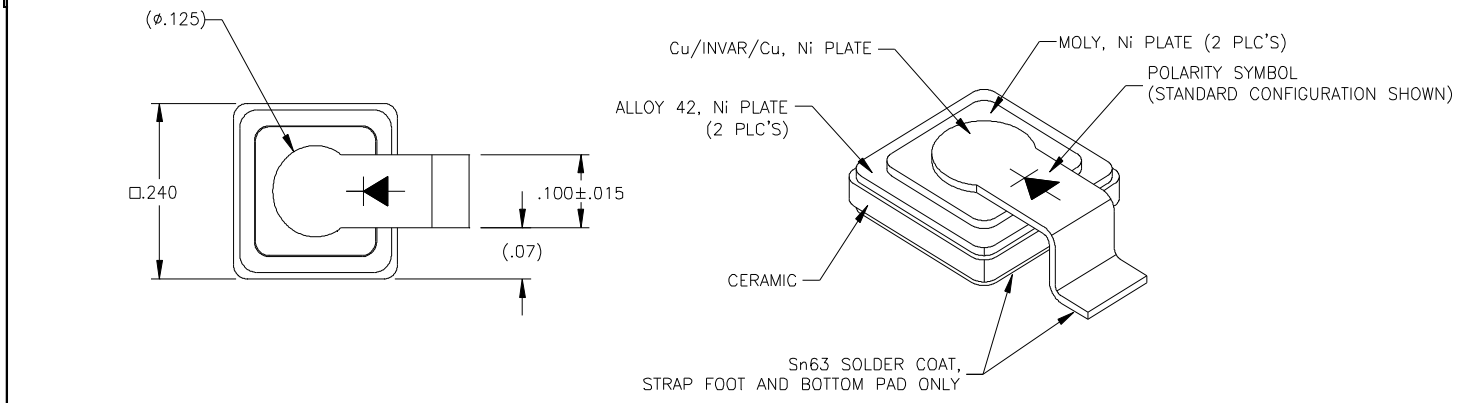
LOW LEAKAGE SCHOTTKY DIODE

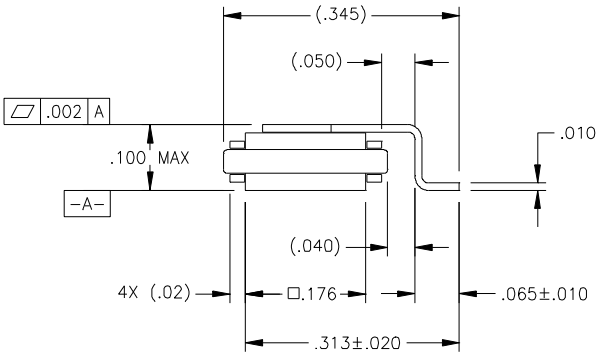
Features

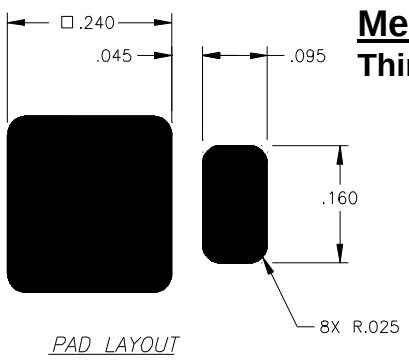
- Tungsten schottky barrier
- Oxide passivated structure for very low leakage currents
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap-to-anode, 1N6816) and reverse polarity (strap-to-cathode: 1N6816R)

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, Tc≤ 145°C		$I_{F(ave)}$	25	Amps
derating, forward current, Tc≥ 145°C		dI_F/dT	(3.3)	Amps/°C
Nonrepetitive Peak Surge Current, tp= 8.3 ms, half-sinewave		I_{FSM}	125	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:	1N6816 1N6816R	θ_{JC}	1.25 1.35	°C/W







Mechanical Outline
ThinKey™2

MSASC25W45K (1N6816)
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Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	IR_{25}	VR= 45 Vdc, Tc= 25°C		5	300	µA
	IR_{125}	VR= 45 Vdc, Tc= 125°C		1.5	10	mA
Forward Voltage pulse test, pw= 300 µs d/c≤ 2%	VF1	IF= 5A, Tc= 25°C		540	600	mV
	VF2	IF= 10A, Tc= 25°C		590	675	mV
	VF3	IF= 20A, Tc= 25°C		680	775	mV
	VF4	IF= 50A, Tc= 25°C		850	-	mV
	VF5	IF= 10A, Tc= -55°C		680	775	mV
	VF6	IF= 10A, Tc= 125°C		500	-	mV
Junction Capacitance	Cj1	VR= 10 Vdc		525	600	pF
	Cj2	VR= 5 Vdc		725		pF
Breakdown Voltage	BVR	IR= 1 mA, Tc= 25°C		55		V
		IR= 1 mA, Tc= -55°C	45	50		V