

1N6815
(MSASC25H45K)
1N6815R
(MSASC25H45KR)

45 Volts
25 Amps

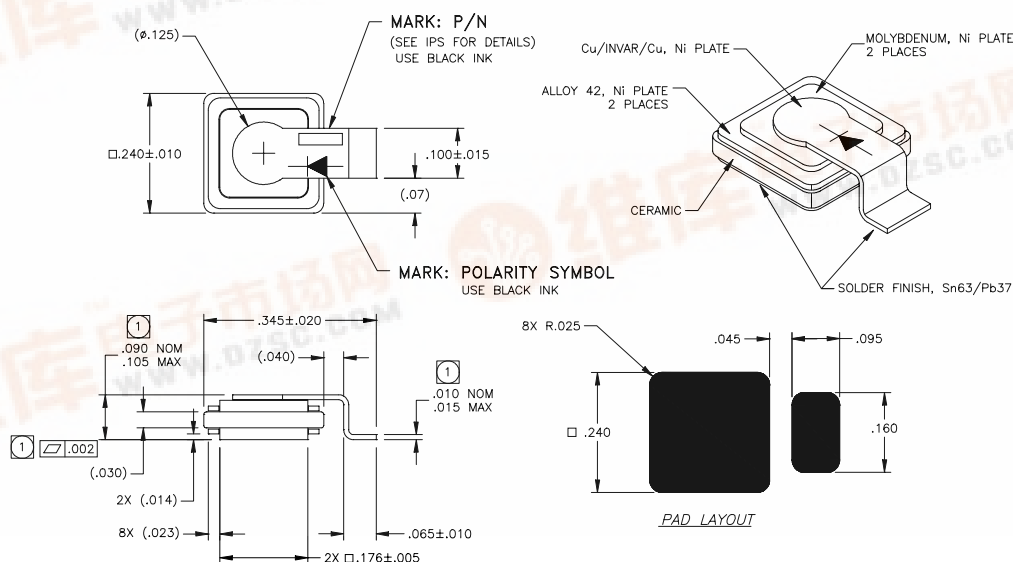
LOW VOLTAGE
DROP SCHOTTKY
DIODE

Features

- Tungsten/Platinum schottky barrier for very 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: 1N6815) and reverse polarity (strap is cathode: 1N6815R)
- TXV-level (MSASC25H45KV) or S-level (MSASC25H45KS) 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}	45	Volts
Working Peak Reverse Voltage	V_{RWM}	45	Volts
DC Blocking Voltage	V_R	45	Volts
Average Rectified Forward Current, $T_c \leq 145^\circ\text{C}$	$I_{F(ave)}$	25	Amps
derating, forward current, $T_c \geq 145^\circ\text{C}$	dl_F/dT	(3.3)	Amps/ $^\circ\text{C}$
Nonrepetitive Peak Surge Current, $t_p = 8.3$ ms, half-sinewave	I_{FSM}	125	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:	θ_{JC}	1N6815 1N6815R 1.25 1.35	$^\circ\text{C/W}$



1 DIMENSION SHOWN APPLIES PRIOR TO SOLDER FINISH.
AFTER SOLDER FINISH DIMENSION MAY VARY
NOTE: UNLESS OTHERWISE SPECIFIED

PAD TOLERANCES		
ROUGHNESS	DECIMAL	ANGULAR
63	.XX ± 0.01 .XXX ± 0.05	± 0.5°

Mechanical Outline
ThinKey™2

1N6815 (MSASC25H45K) 1N6815R (MSASC25H45KR)



Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	IR	VR= 45 Vdc, Tc= 25°C		300	1000	μA
	IR	VR= 45 Vdc, Tc= 125°C		100	150	mA
Forward Voltage pulse test, pw= 300 μs d/c≤ 2%	VF	IF= 5A, Tc= 25°C		375	475	mV
	VF	IF= 10A, Tc= 25°C		430	520	mV
	VF	IF= 20A, Tc= 25°C		510	610	mV
	VF	IF= 50A, Tc= 25°C		740		mV
	VF	IF= 10A, Tc= -55°C		480	580	mV
	VF	IF= 10A, Tc= 125°C		360		mV
Junction Capacitance	Cj	VR= 10 Vdc		525	600	pF
	Cj	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

VF typical vs. IF

