

## MSASC25H45K MSASC25H45KR

**45 Volts  
 25 Amps**

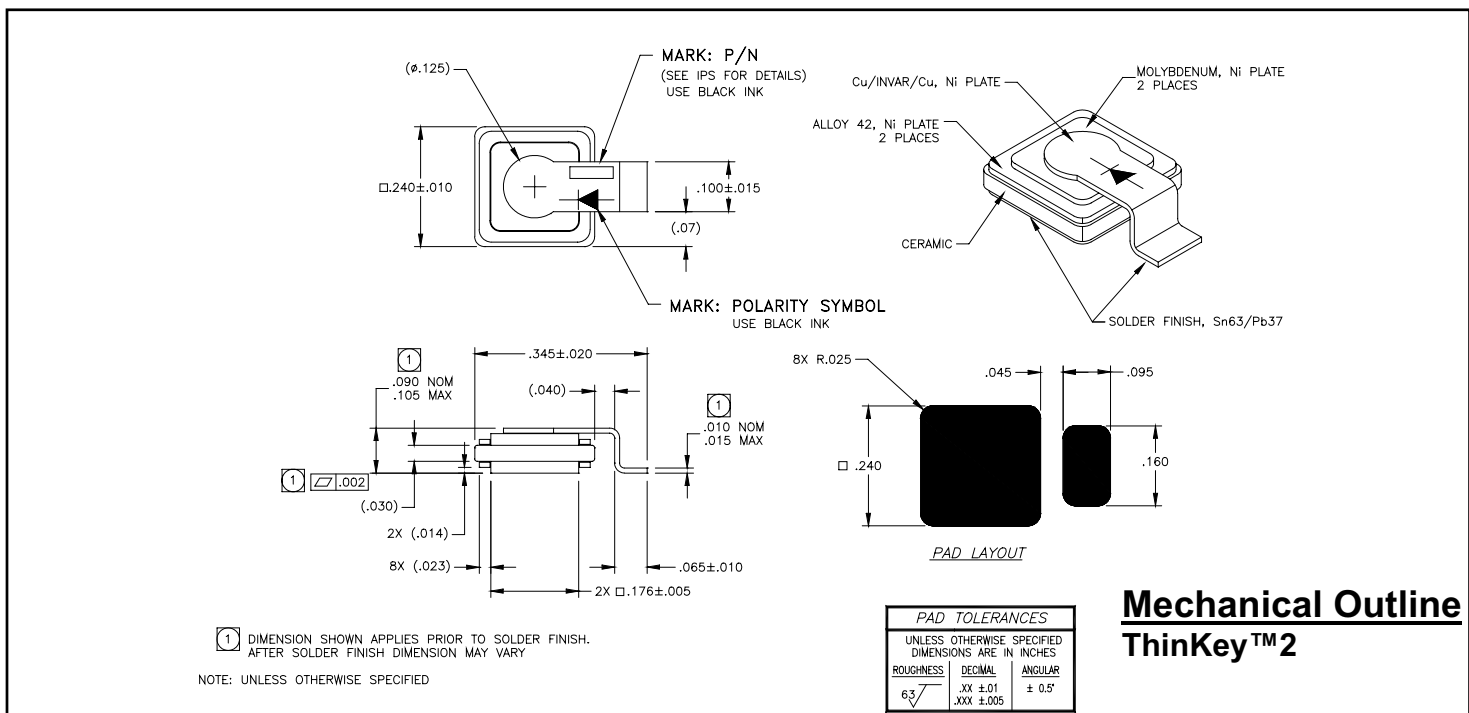
**LOW VOLTAGE  
 DROP SCHOTTKY  
 DIODE**

### 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:MSASC25H45K) and reverse polarity (strap is cathode:MSASC25H45KR)
- 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, $T_c \geq 145^\circ\text{C}$	$di_F/dT$	(3.3)	Amps/°C
Nonrepetitive Peak Surge Current, $t_p = 8.3$ ms, half-sinewave	$I_{FSM}$	280	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	°C
Storage Temperature Range	$T_{stg}$	-55 to +150	°C
Thermal Resistance, Junction to Case:			
	MSASC25H45K	0.85	°C/W
	MSASC25H45KR	0.95	



**Mechanical Outline  
 ThinKey™2**

# MSASC25H45K 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

