

# MSASC25W100K MSASC25W100KR

## Features

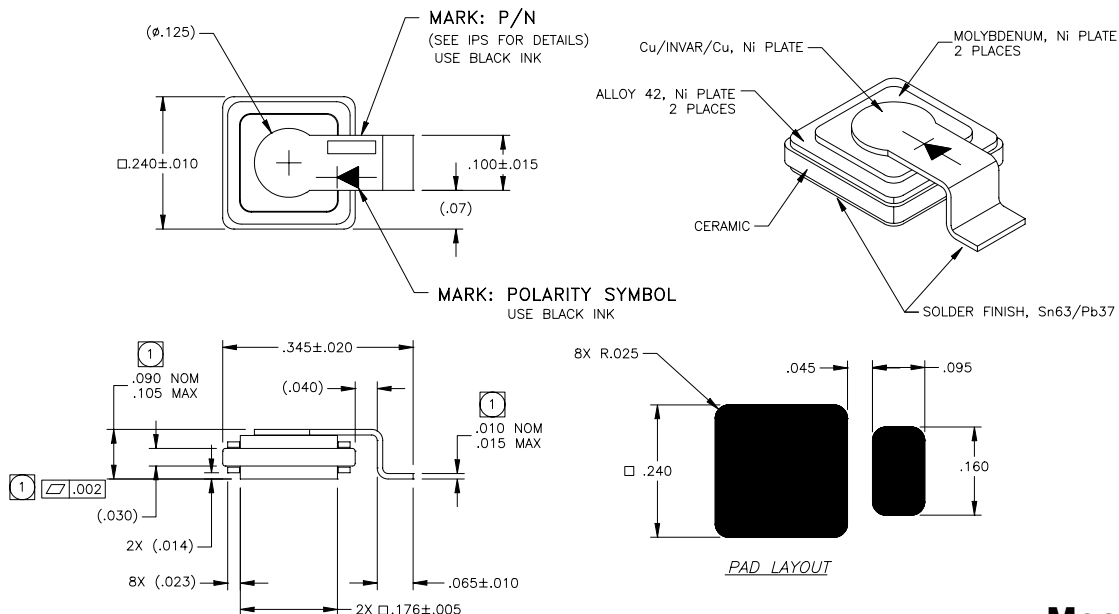
- Platinum schottky barrier
- Oxide passivated structure
- Guard ring protection for increased reverse energy capability
- Epitaxial structure minimizes forward voltage drop
- Hermetically sealed, low profile ceramic surface mount power package
- Low package inductance
- Very low thermal resistance
- Available as standard polarity (strap is anode: MSASC25W100K) and reverse polarity (strap is cathode: MSASC25W100KR)
- TXV-level screening (MSASC25W100KV) or S-level (MSASC25W100KS) screening i.a.w. Microsemi internal procedure PS11.50 available

**100 Volts  
25 Amps**

**Low Profile  
Surface Mount  
SCHOTTKY DIODE**

## 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, $T_c \leq 145^\circ\text{C}$	$I_{F(ave)}$	25	Amps
derating, forward current, $T_c \geq 145^\circ\text{C}$	$di_F/dT$	(3.3)	Amps/ $^\circ\text{C}$
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	$T_j$	-65 to +175	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	-65 to +175	$^\circ\text{C}$
Thermal Resistance, Junction to Case:	$\theta_{JC}$	MSASC25W100K 0.85 MSASC25W100KR 0.95	$^\circ\text{C/W}$



① DIMENSION SHOWN APPLIES PRIOR TO SOLDER FINISH.  
AFTER SOLDER FINISH DIMENSION MAY VARY

NOTE: UNLESS OTHERWISE SPECIFIED

PAD TOLERANCES		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		
ROUGHNESS	DECIMAL	ANGULAR
63	.XX ± 0.01 .XXX ± 0.005	± 0.5°

**Mechanical  
Outline  
ThinKey™ 2**

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## Electrical Parameters

DESCRIPTION	SYMBOL	CONDITIONS	MIN	TYP.	MAX	UNIT
Reverse (Leakage) Current	$IR_{25}$	$VR = 100 \text{ Vdc}, T_c = 25^\circ\text{C}$		7	500	$\mu\text{A}$
	$IR_{125}$	$VR = 100 \text{ Vdc}, T_c = 125^\circ\text{C}$		2	7	mA
Forward Voltage pulse test, $pw = 300 \mu\text{s}$ $d/c \leq 2\%$	VF1	$IF = 5\text{A}, T_c = 25^\circ\text{C}$		650	700	mV
	VF2	$IF = 10\text{A}, T_c = 25^\circ\text{C}$		750	780	mV
	VF3	$IF = 25\text{A}, T_c = 25^\circ\text{C}$		830	910	mV
	VF4	$IF = 50\text{A}, T_c = 25^\circ\text{C}$		940	-	mV
	VF5	$IF = 10\text{A}, T_c = 125^\circ\text{C}$		590	630	mV
	VF6	$IF = 25\text{A}, T_c = 125^\circ\text{C}$		690	750	mV
Junction Capacitance	Cj1	$VR = 10 \text{ Vdc}$		370		pF
	Cj2	$VR = 5 \text{ Vdc}$		500	600	pF
Breakdown Voltage	BVR	$IR = 1 \text{ mA}, T_c = 25^\circ\text{C}$	100	110		V
		$IR = 1 \text{ mA}, T_c = -55^\circ\text{C}$	100			V

