

FEATURES

- Very low profile - typical height of 0.68mm
- Low power loss, high efficiency
- Ideal for automated placement
- Moisture sensitivity level: level 1, per J-STD-020
- RoHS Compliant
- Halogen-free according to IEC 61249-2-21

APPLICATIONS

- Switching mode power supply (SMPS)
- Adapters
- DC to DC converter

MECHANICAL DATA

- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 2 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.006g (approximately)

KEY PARAMETERS		
PARAMETER	VALUE	UNIT
I_F	1	A
V_{RRM}	60	V
I_{FSM}	25	A
$T_{J\ MAX}$	150	°C
Package	Micro SMA	
Configuration	Single die	



SOD323HE



ABSOLUTE MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL		UNIT
Repetitive peak reverse voltage	V_{RRM}	60	V
Reverse voltage, total rms value	$V_{R(RMS)}$	42	V
Forward current	I_F	1	A
Surge peak forward current, 8.3ms single half sine wave superimposed on rated load	I_{FSM}	25	A
Junction temperature	T_J	-55 to +150	°C
Storage temperature	T_{STG}	-55 to +150	°C

THERMAL PERFORMANCE			
PARAMETER	SYMBOL	TYP	UNIT
Junction-to-lead thermal resistance	$R_{\theta JL}$	30	°C/W
Junction-to-ambient thermal resistance	$R_{\theta JA}$	125	°C/W
Junction-to-case thermal resistance	$R_{\theta JC}$	40	°C/W

ELECTRICAL SPECIFICATIONS (T _A = 25°C unless otherwise noted)						
PARAMETER		CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage ⁽¹⁾		I _F = 0.5A, T _J = 25°C	V _F	0.51	-	V
		I _F = 1.0A, T _J = 25°C		0.64	0.68	V
		I _F = 0.5A, T _J = 125°C	V _F	0.46	-	V
		I _F = 1.0A, T _J = 125°C		0.57	0.60	V
Reverse current @ rated V _R ⁽²⁾		T _J = 25°C	I _R	-	50	µA
		T _J = 125°C		-	10	mA
Junction capacitance		1MHz, V _R = 4.0V	C _J	40	-	pF

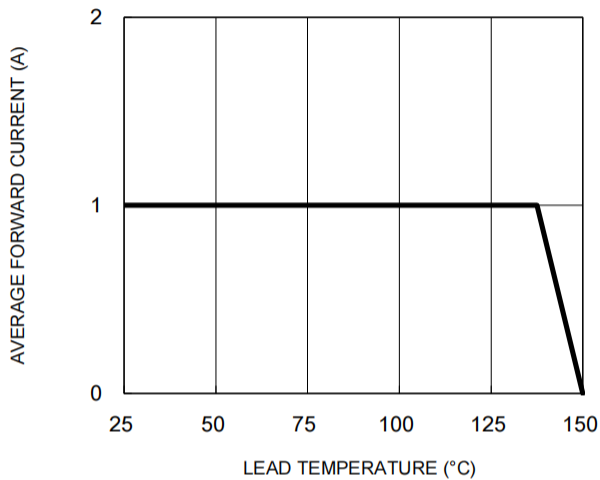
Notes:

1. Pulse test with $PW = 0.3\text{ms}$
2. Pulse test with $PW = 30\text{ms}$

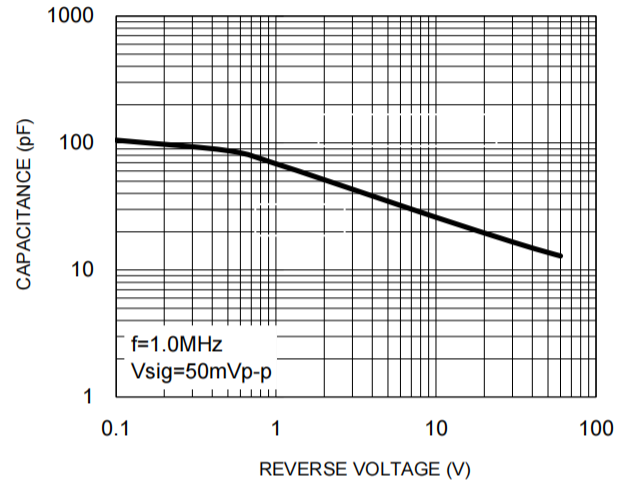
CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

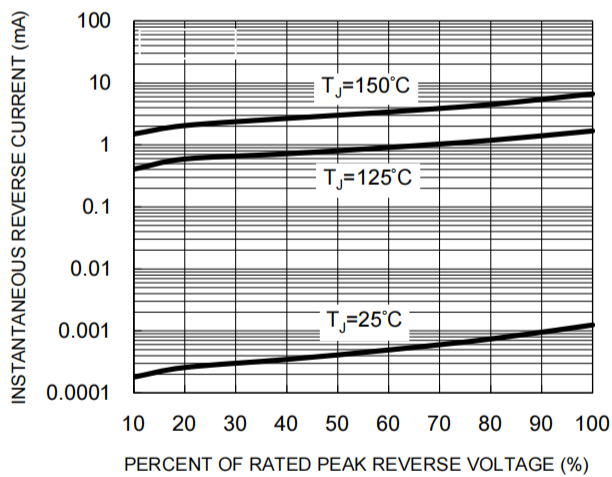
Forward Current Derating Curve



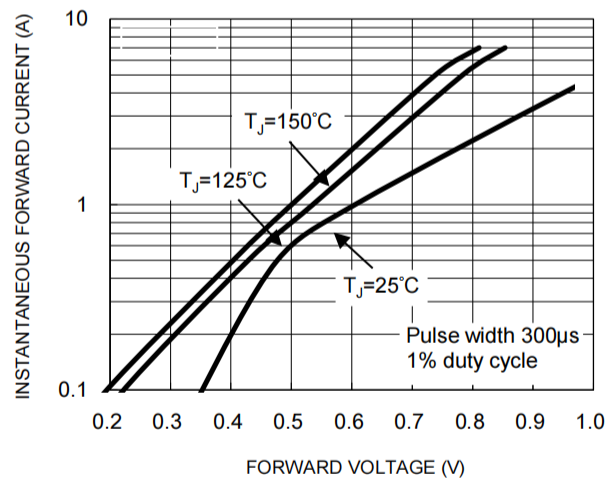
Typical Junction Capacitance



Typical Reverse Characteristics



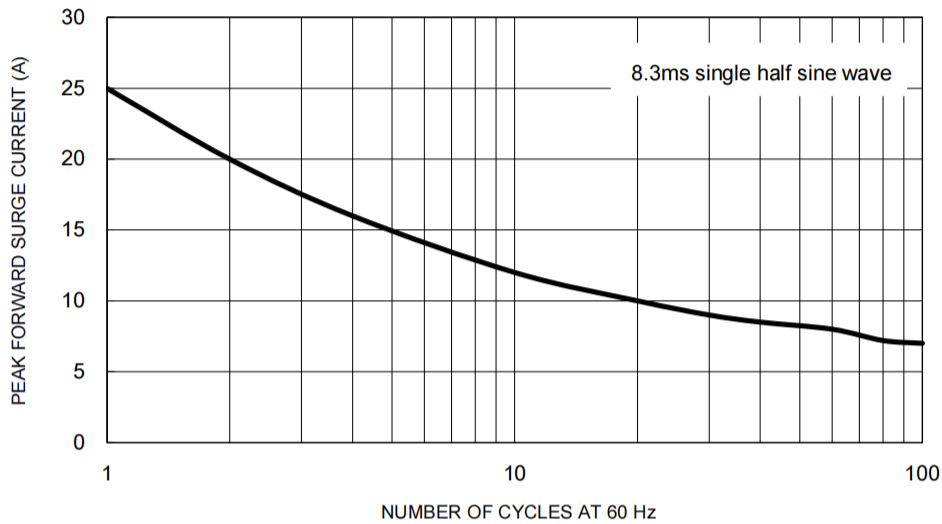
Typical Forward Characteristics



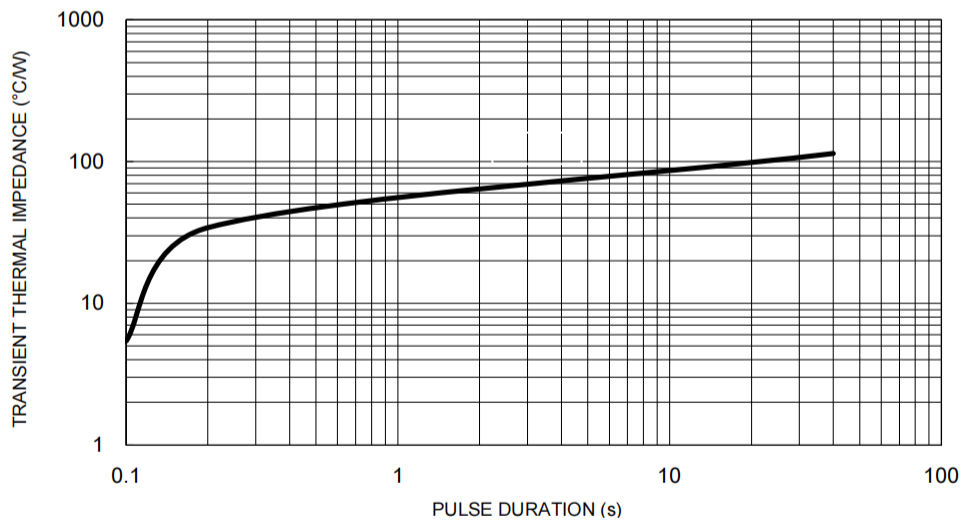
CHARACTERISTICS CURVES

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Maximum Non-Repetitive Forward Surge Current

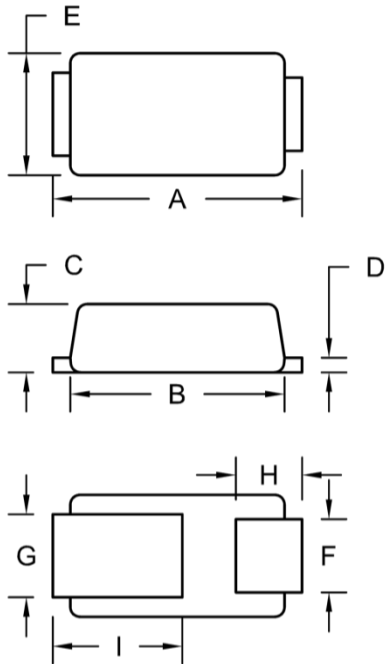


Typical Transient Thermal Impedance



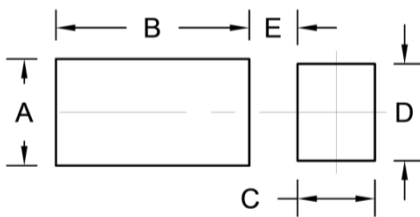
PACKAGE OUTLINE DIMENSIONS

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DIM.	Unit (mm)		Unit (inch)	
	Min.	Max.	Min.	Max.
A	2.30	2.70	0.091	0.106
B	2.10	2.30	0.083	0.091
C	0.63	0.73	0.025	0.029
D	0.10	0.20	0.004	0.008
E	1.15	1.35	0.045	0.053
F	0.65	0.85	0.026	0.034
G	0.75	0.95	0.030	0.037
H	0.55	0.75	0.022	0.030
I	1.10	1.50	0.043	0.059

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.10	0.043
B	2.00	0.079
C	0.80	0.031
D	1.00	0.039
E	0.50	0.020