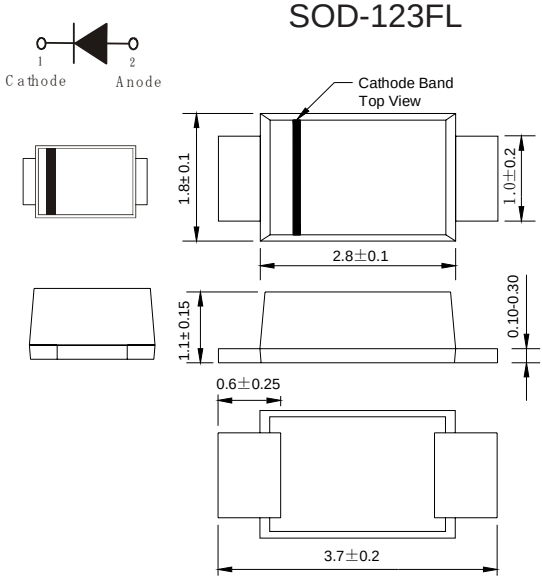
CURRENT 1.0 Ampere
VOLTAGE RANG 20 to 40 Volts

B5817W/SJ THRU B5819W/SL

SOD-123FL



Dimensions in millimeters

Features:

- ☐ Metal silicon junction, majority carrier conduction
- ☐ For surface mounted applications
- ☐ Low power loss, high efficiency
- ☐ Fast switching for high efficiency
- ☐ High forward surge current capability
- ☐ For use in low voltage, high frequency inverters

MECHANICAL DATA

Case: Molded plastic body
Terminals: Plated leads solderable per MIL-STD-750, Method 2026
Polarity: Polarity symbols marked on case
Marking: B5817W:SJ, B5818W:SK, B5819W:SL

Maximum ratings and electrical characteristics, Single diode @T_A=25℃

PARAMETER	SYMBOLS	B5817W/SJ	B5818W/SK	B5819W/SL	UNITS
Peak repetitive peak reverse voltage Working peak reverse voltage DC Blocking voltage	V_{RRM} V_{RWM} V_R	20	30	40	V
RMS Reverse voltage	$V_{R(RMS)}$	14	21	28	V
Average rectified output current	I_O	1			A
Peak forward surge current @=8.3ms	I_{FSM}	9			A
Repetitive peak forward current	I_{FRM}	1.5			A
Power dissipation	Pd	250			mW
Thermal resistance junction to ambient	$R_{\Theta JA}$	500			K/W
Storage temperature	T_{STG}	-65 to +150			℃
Non-Repetitive peak reverse voltage	V_{RM}	20	30	40	V

Electrical ratings @T_A=25℃

PARAMETER	SYMBOLS	Min.	Max.	Unit	Test conditions	
Reverse breakdown voltage	$V_{(BR)}$	20 30 40		V V V	I_R=1mA	B5817W B5818W B5819W
Reverse voltage leakage current	I_R		1	mA	V_R=20V	B5817W
					V_R=30V	B5818W
					V_R=40V	B5819W
Forward voltage	V_F		0.45 0.75	V	I_F=1A I_F=3A	B5817W
			0.55 0.875	V		B5818W
			0.6 0.9	V		B5819W
Diode capacitance	C_D		120	pF	V_R=4V,f=1.0MHz	

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Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

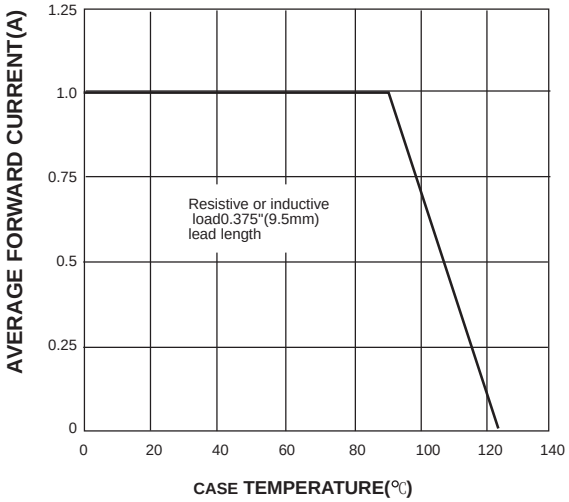


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

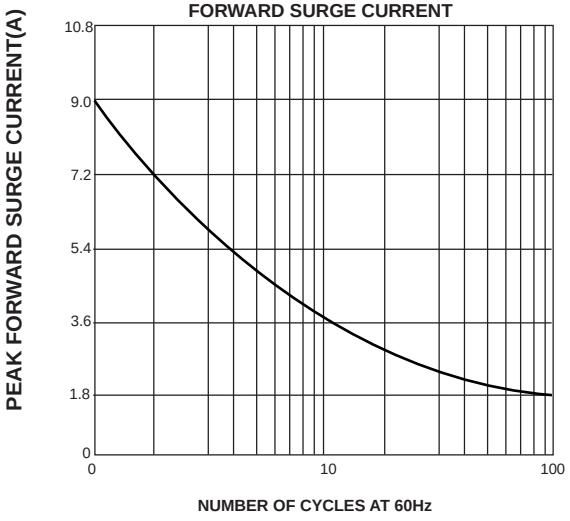


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

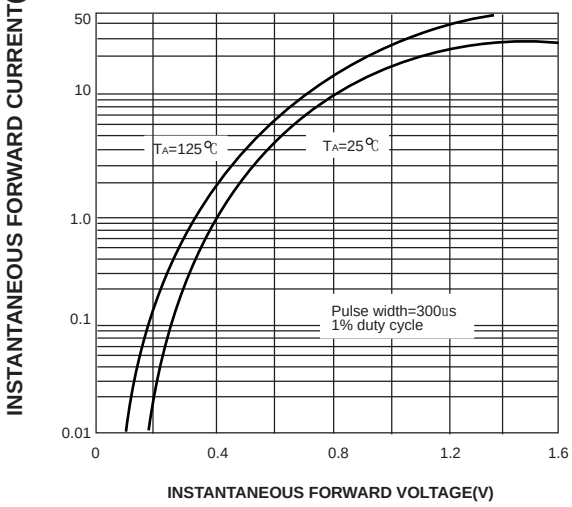


FIG. 4- TYPICAL REVERSE CHARACTERISTICS

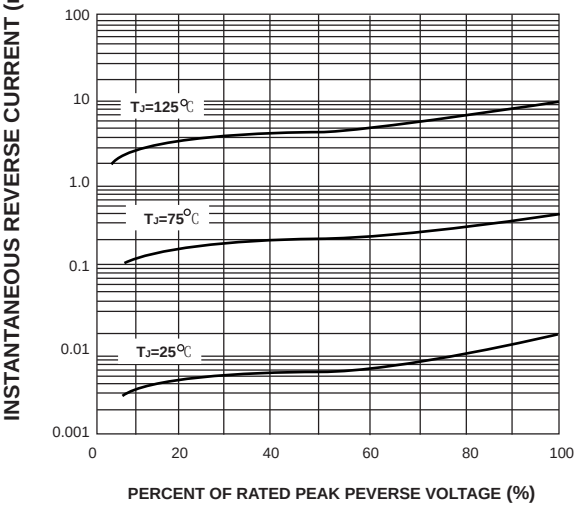


FIG. 5- TYPICAL JUNCTION CAPACITANCE

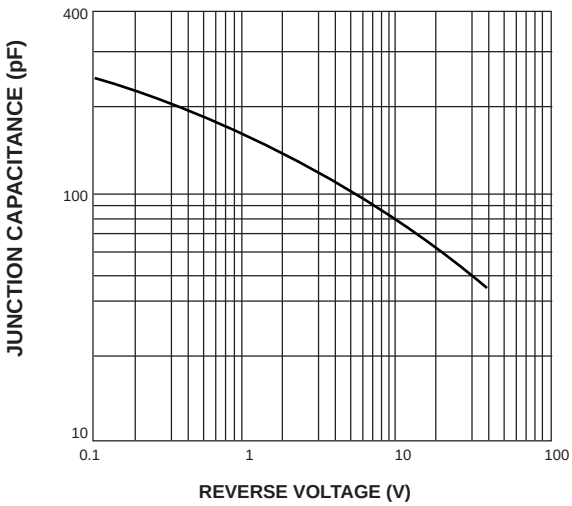
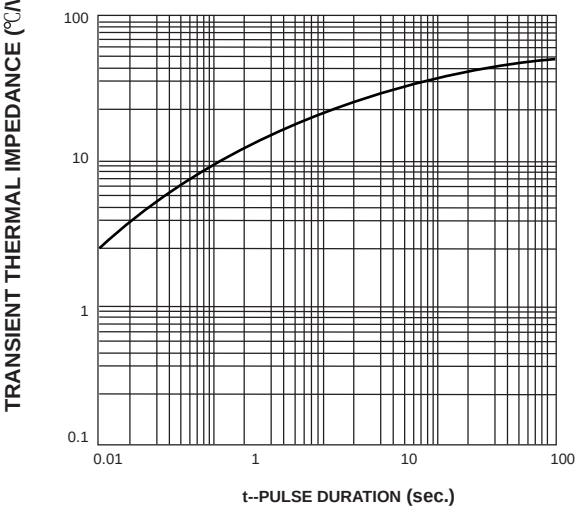


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



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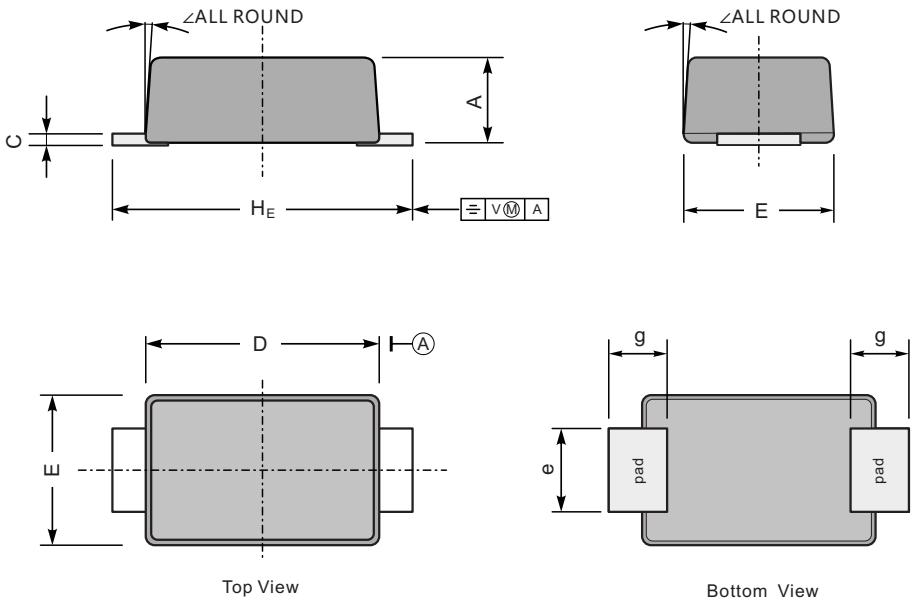
Package Dimension

SOD-123FL Unit: mm



UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size