

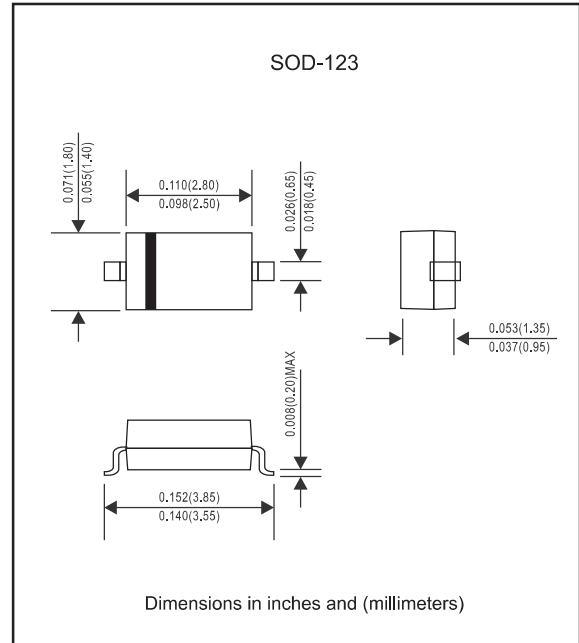
### Features

- ▶ For use in low voltage, high frequency inverters
- ▶ Free wheeling, and polarity protection applications

### Mechanical data

- ▶ **Case:** JEDEC SOD-123 molded plastic body
- ▶ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ▶ **Polarity:** Color band denotes cathode end
- ▶ **Mounting Position:** Any
- ▶ **Marking:**
  - B5817W: SJ
  - B5818W: SK
  - B5819W: SL

### Package outline



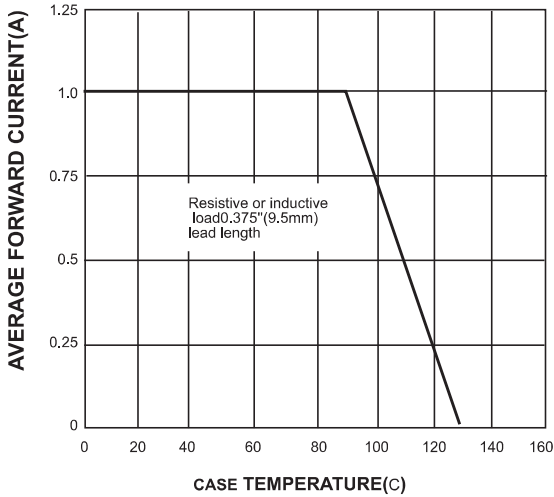
### Maximum ratings and Electrical Characteristics (AT $T_A=25^{\circ}\text{C}$ unless otherwise noted)

PARAMETER	SYMBOLS	B5817W	B5818W	B5819W	UNITS
Peak repetitive peak reverse voltage	$V_{RRM}$				
Working peak	$V_{RWM}$	20	30	40	V
DC Blocking voltage	$V_R$				
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
Power dissipation	$P_d$		250		mW
Thermal resistance junction to ambient	$R_{\theta JA}$		500		K/W
Operating junction temperature range	$T_J$		-55 to +125		$^{\circ}\text{C}$
Storage temperature	$T_{STG}$		-55 to +150		
Non-Repetitive peak reverse voltage	$V_{RM}$	20	30	40	V

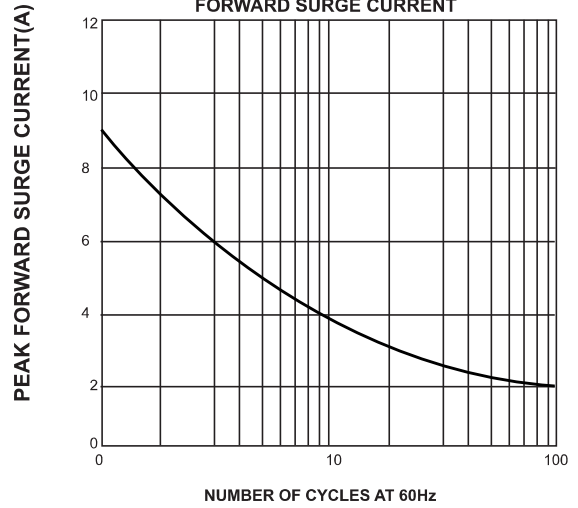
PARAMETER	SYMBOLS	Min.	Max.	Unit	Test conditions	
Reverse breakdown voltage	$V_{(BR)}$	20		V	$I_R=1\text{mA}$ B5817W B5818W B5819W	
		30		V		
		40		V		
Reverse voltage leakage current	$I_R$		1	mA	$V_R=20\text{V}$ B5817W	
					$V_R=30\text{V}$ B5818W	
					$V_R=40\text{V}$ B5819W	
Forward voltage	$V_F$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

**Rating and characteristic curves**

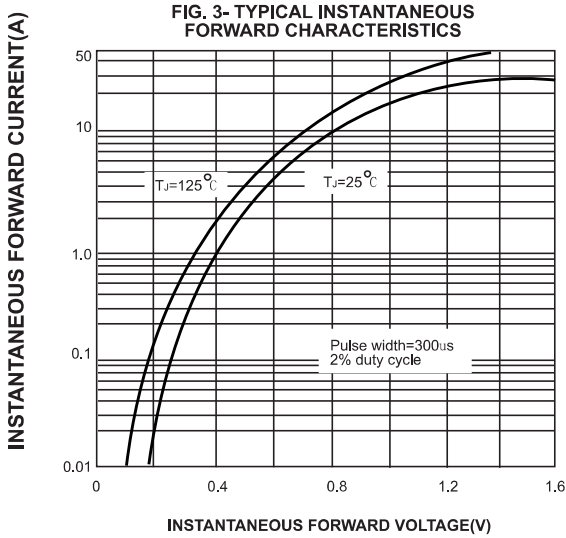
**FIG. 1- FORWARD CURRENT DERATING CURVE**



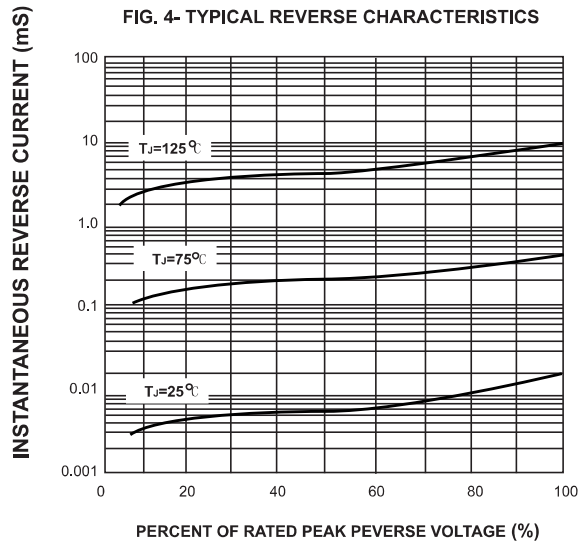
**FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**



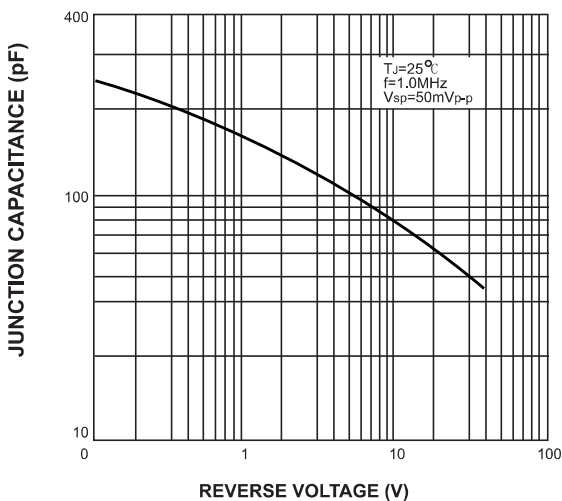
**FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS**



**FIG. 4- TYPICAL REVERSE CHARACTERISTICS**



**FIG. 5- TYPICAL JUNCTION CAPACITANCE**



**FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE**

