



B5817W THRU B5819W

Reverse Voltage 100-250 Volts Forward Current - 1.0 Ampere

FAST SWITCHING DIODES

Features

- ◆ Fast switching speed
- ◆ Surface mount package ideally suited
- ◆ for automatic insertion
- ◆ For general purpose switching applications High
- ◆ conductance

Mechanical Data

Case : JEDEC SOD-123 molded plastic body
 Terminals : Plated leads solderable per MIL-STD-750,
 Method 2026

Polarity : Polarity symbols marked on case

Weight : 0.0007 ounce, 0.02 grams

Marking:BAV19W:A8, BAV20W:T2, BAV21W:T3

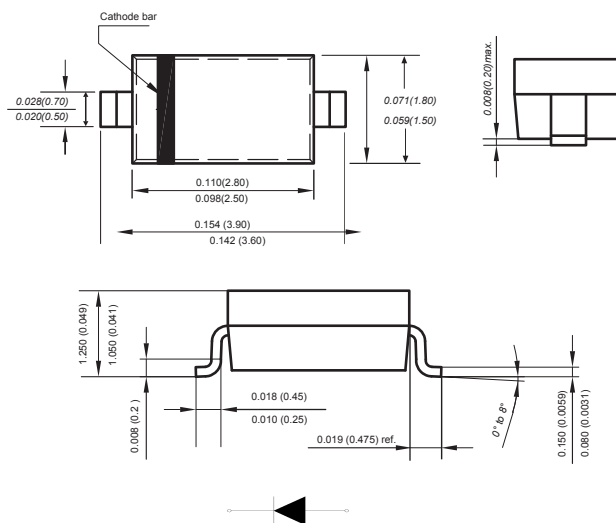
Absolute Maximum Ratings at 25 °C

PARAMETER	SYMBOLS	BAV19W	BAV20W	BAV21W	UNITS
Peak repetitive peak reverse voltage	V_{RRM}				
Working peak reverse voltage	V_{RWM}	100	150	250	V
DC Blocking voltage	V_R				
RMS Reverse voltage	$V_{R(RMS)}$	71	106	141	V
Forward continuous current	I_{FM}		400		mA
Average rectified output current	I_o		200		mA
Peak forward surge current @=1.0ms	I_{FSM}		2.5		A
@=1.0s			0.5		
Repetitive peak forward current	I_{FRM}		625		mA
Power dissipation	P_d		250		mW
Thermal resistance junction to ambient	$R_{\theta JA}$		500		K/W
Storage temperature	T_{STG}		-65 to +150		°C
Non-Repetitive peak reverse voltage	V_{RM}	120	200	250	V

Characteristics at Ta= 25 °C

PARAMETER	SYMBOLS	Min.	Typ.	Max.	Unit	Conditions
Forward voltage	V_{F1}			1.0	V	$I_F=0.1A$
	V_{F2}			1.25	V	$I_F=0.2A$
Reverse current V19W	I_R			0.1	uA	$V_R=100V$
BAV20W				0.1	uA	$V_R=150V$
BAV21W				0.1	uA	$V_R=200V$
Capacitance between terminals	C_T			5	pF	$V_R=0V, f=1.0MHz$
Reverse recovery time	t_{rr}			50	ns	$I_F=I_R=10mA$ $I_{rr}=0.1X I_R, R_L=100 \Omega$

SOD-123



Dimensions in inches and (millimeters)



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Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

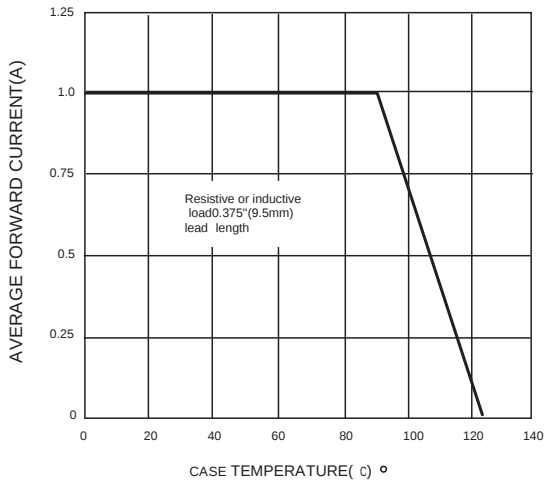


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

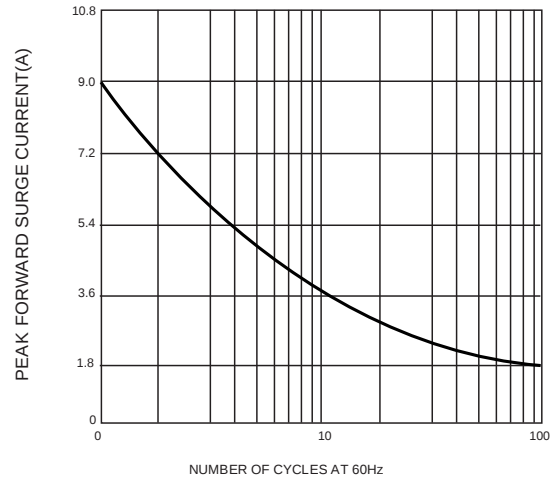
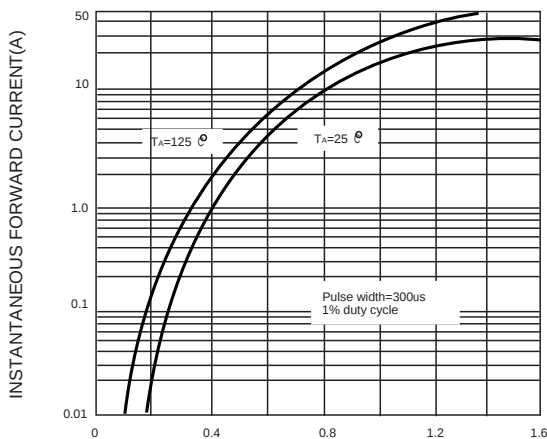
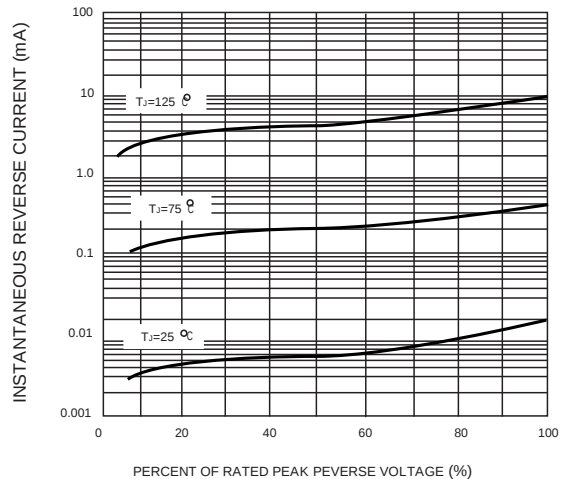


FIG. 3- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

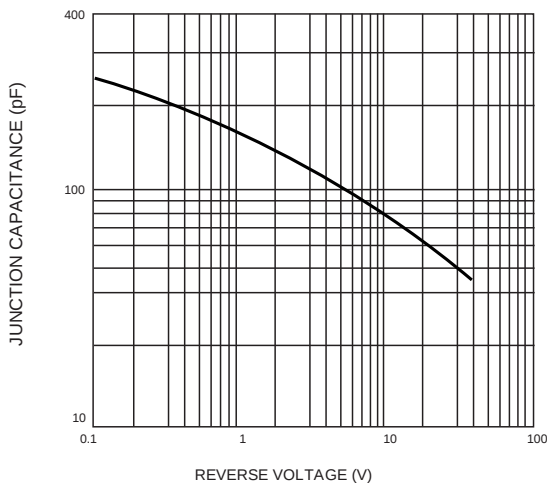


INSTANTANEOUS FORWARD VOLTAGE(V) FIG. 5-

FIG. 4- TYPICAL REVERSE CHARACTERISTICS

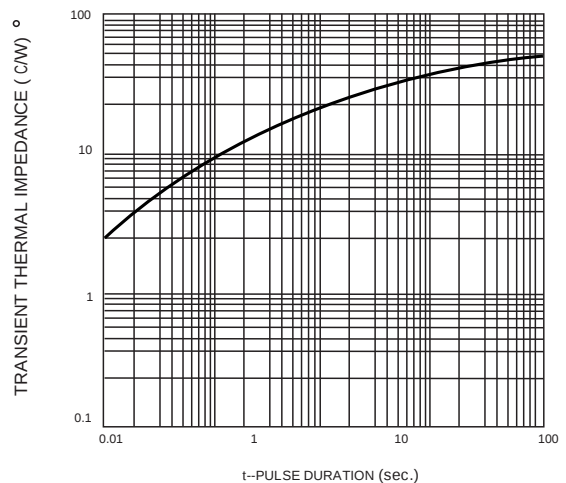


TYPICAL JUNCTION CAPACITANCE



V_R , REVERSE VOLTAGE (V)

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



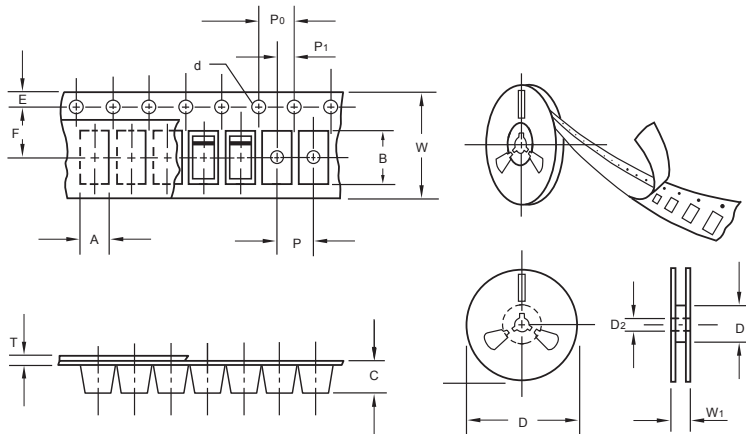
The curve above is for reference only.



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Packing information



unit:mm

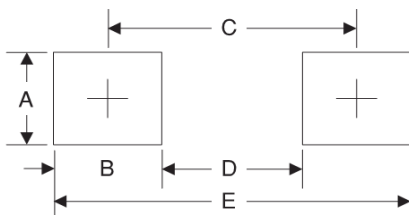
Item	Symbol	Tolerance	SOD-123
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W ₁	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2.0	0.079
E	4.4	0.173

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