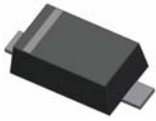


### Small Signal Diode



#### Features

- ✧ These diodes are also available in DO-35, LL34 Package
- ✧ Surface device type mounting
- ✧ Moisture sensitivity level 1
- ✧ Matte Tin(Sn) lead finish with Nickel(Ni) underplate
- ✧ Pb free version and RoHS compliant
- ✧ Green compound (Halogen free) with suffix "G" on packing code and prefix "G" on date code

#### Mechanical Data

- ✧ Case : Flat lead SOD-123F small outline plastic package
- ✧ Terminal: Matte tin plated, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ High temperature soldering guaranteed: 260°C/10s
- ✧ Polarity : Indicated by cathode band
- ✧ Weight : 4.85±0.5 mg
- ✧ Marking Code : H1, H2, H3

#### Ordering Information

Part No.	Package	Packing Code	Packing	Marking
BAV19W	SOD-123F	RH	3K / 7" Reel	H1
BAV20W	SOD-123F	RH	3K / 7" Reel	H2
BAV21W	SOD-123F	RH	3K / 7" Reel	H3
BAV19W	SOD-123F	RHG	3K / 7" Reel	H1
BAV20W	SOD-123F	RHG	3K / 7" Reel	H2
BAV21W	SOD-123F	RHG	3K / 7" Reel	H3

#### Maximum Ratings and Electrical Characteristics

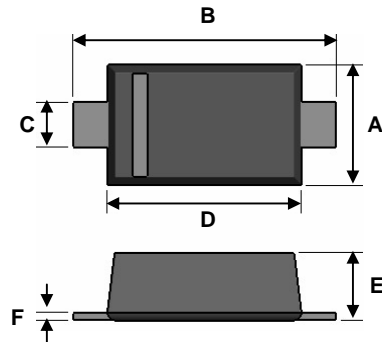
Rating at 25°C ambient temperature unless otherwise specified.

##### Maximum Ratings

Type Number	Symbol	Value	Units
Power Dissipation	P <sub>D</sub>	410	mW
Repetitive Peak Reverse Voltage	V <sub>RRM</sub>	250	V
Repetitive Peak Forward Current	I <sub>FRM</sub>	625	mA
Mean Forward Current	I <sub>O</sub>	200	mA
Non-Repetitive Peak Forward Surge Current	I <sub>FSM</sub>	4	A
Pulse width= 1μs		1	
Thermal Resistance (Junction to Ambient)	R <sub>θJA</sub>	375	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to + 150	°C

Note1. The suggested land pattern dimensions have been provided for reference only, as actual pad layouts may vary depending on application.

#### SOD-123F

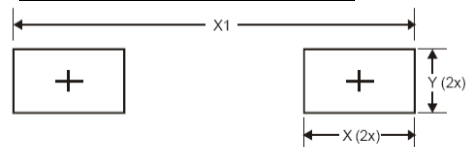


Dimensions (mm)	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.5	1.7	0.059	0.067
B	3.3	3.9	0.130	0.154
C	0.5	0.7	0.020	0.028
D	2.5	2.7	0.098	0.106
E	0.8	1.15	0.031	0.045
F	0.05	0.2	0.002	0.008

#### Pin Configuration



#### Suggested PAD Layout



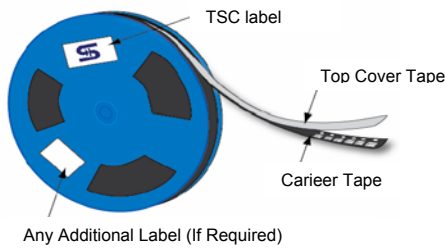
Dimensions	Value (in mm)
X	0.710
X1	2.900
Y	0.403

### Small Signal Diode

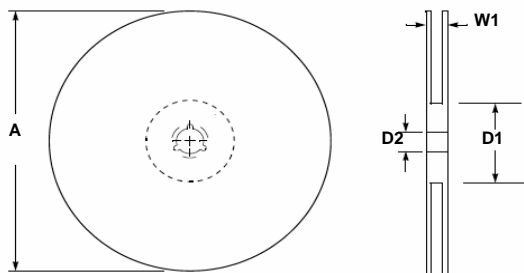
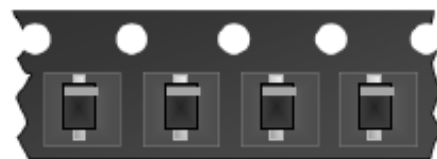
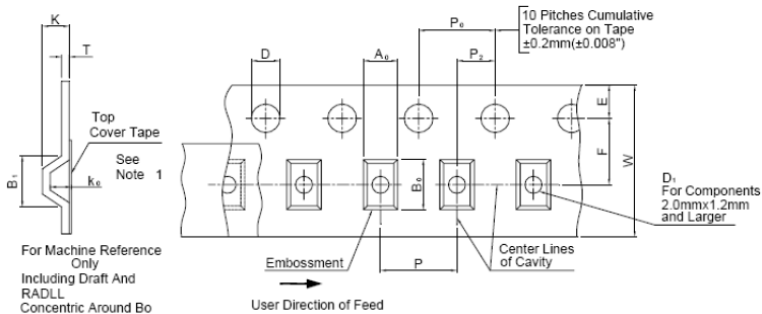
### Electrical Characteristics

Type Number		Symbol	Min	Max	Units
Reverse Breakdown Voltage	BAV19W	$V_{(BR)}$	120	-	V
	BAV20W (Note 2)		200	-	
	BAV21W		250	-	
Forward Voltage	$I_F=100mA$	$V_F$	-	1.00	V
	$I_F=200mA$		-	1.25	
Reverse Leakage Current	BAV19W BAV20W (Note 3) BAV21W	$I_R$	-	100	nA
Junction Capacitance	$V_R=0, f=1.0MHz$	$C_J$	-	5.0	pF
Reverse Recovery Time	(Note 4)	$T_{rr}$	-	50	ns

### Tape & Reel specification



Item	Symbol	Dimension(mm)
Carrier depth	K	2.40 Max.
Sprocket hole	D	$1.5 \pm 0.1$
Reel outside diameter	A	$178 \pm 1$
Reel inner diameter	D1	50 Min.
Feed hole width	D2	$13.0 \pm 0.5$
Sprocket hole position	E	$1.75 \pm 0.10$
Punch hole position	F	$3.50 \pm 0.05$
Sprocket hole pitch	P0	$4.00 \pm 0.10$
Embossment center	P1	$2.00 \pm 0.10$
Overall tape thickness	T	0.6 Max.
Tape width	W	8.30 Max.
Reel width	W1	14.4 Max



Note 2: Test Condition :  $I_R=100\mu A$

Note 3: Test Condition : BAV19W @  $V_R=100V$ , BAV20W @  $V_R=150V$ , BAV21W @  $V_R=200V$

Note 4: Test Condition :  $I_F=I_R=30mA$ ,  $R_L=100\Omega$ ,  $I_{RR}=3mA$

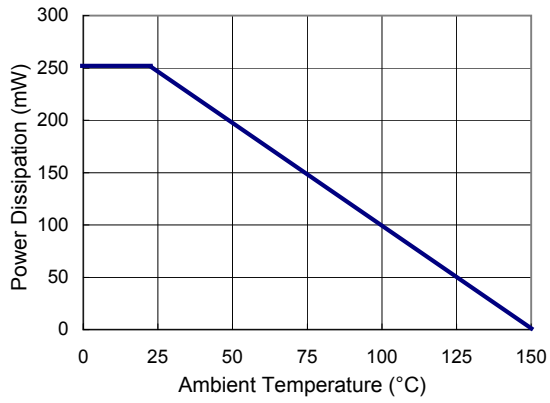
Note 5: A0, B0, and K0 are determined by component size. The clearance between the components and the cavity must be within 0.05 mm min. to 0.5 mm max. The component cannot rotate more than  $10^\circ$  within the determined cavity.

Note 6: If B1 exceeds 4.2 mm(0.165") for 8 mm embossed tape, the tape may not feed through all tape feeders.

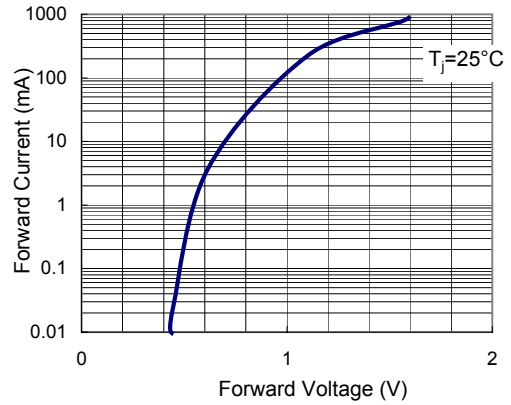
**Small Signal Diode**

**Rating and Characteristic Curves**

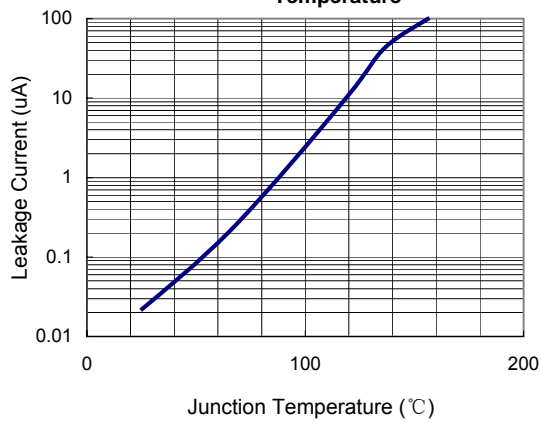
**FIG 1 Admissible Power Dissipation Curve**



**FIG 2 Typical Forward Characteristics**



**FIG 3 Leakage Current vs Junction Temperature**



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