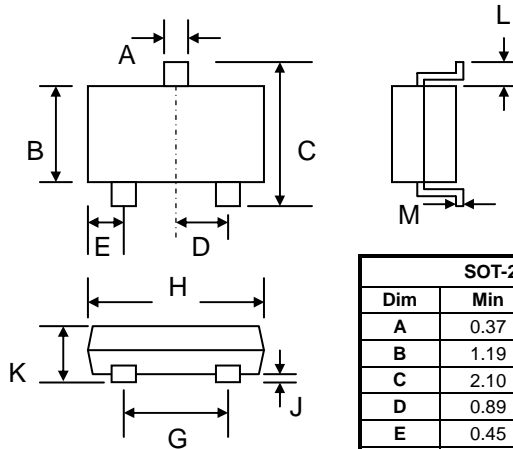


## SURFACE MOUNT SCHOTTKY BARRIER DIODE

### Features

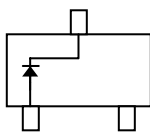
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-O



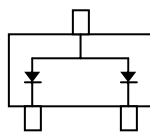
### Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)
- Marking: Device Code, See Page 3
- Mounting Position: Any
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**

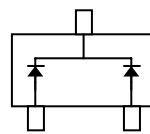
SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.19	1.40
C	2.10	2.50
D	0.89	1.05
E	0.45	0.61
G	1.78	2.05
H	2.65	3.05
J	0.013	0.15
K	0.89	1.10
L	0.45	0.61
M	0.076	0.178
All Dimensions in mm		



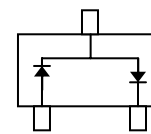
TOP VIEW  
BAS40



TOP VIEW  
BAS40A



TOP VIEW  
BAS40C



TOP VIEW  
BAS40S

### Maximum Ratings and Electrical Characteristics, Single Diode @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	$V_{RRM}$ $V_{RWM}$ $V_R$	40	V
Forward Continuous Current (Note 1)	$I_F$	200	mA
Forward Surge Current (Note 1) @ $t < 1.0\text{s}$	$I_{FSM}$	600	mA
Power Dissipation (Note 1)	$P_d$	350	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	$R_{\theta JA}$	357	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	$T_j, T_{STG}$	-55 to +125	$^\circ\text{C}$

Note: 1. Device on fiberglass substrate.

# Maximum Ratings and Electrical Characteristics, Single Diode @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Min	Typ	Max	Unit	Test Condition
Reverse Breakdown Voltage	$V_{(BR)R}$	40	—	—	V	@ $I_R = 10\mu\text{A}$
Forward Voltage	$V_F$	—	—	380 500 1000	mV	@ $I_F = 1.0\text{mA}$ , $t_p < 300\mu\text{s}$ @ $I_F = 10\text{mA}$ , $t_p < 300\mu\text{s}$ @ $I_F = 40\text{mA}$ , $t_p < 300\mu\text{s}$
Reverse Leakage Current	$I_R$	—	20	200	nA	@ $V_R = 30\text{V}$ , $t_p < 300\mu\text{s}$
Junction Capacitance	$C_j$	—	4.0	5.0	pF	$V_R = 0\text{V}$ , $f = 1.0\text{MHz}$
Reverse Recovery Time	$t_{rr}$	—	—	5.0	nS	$I_F = 10\text{mA}$ through $I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}$ , $R_L = 100\Omega$

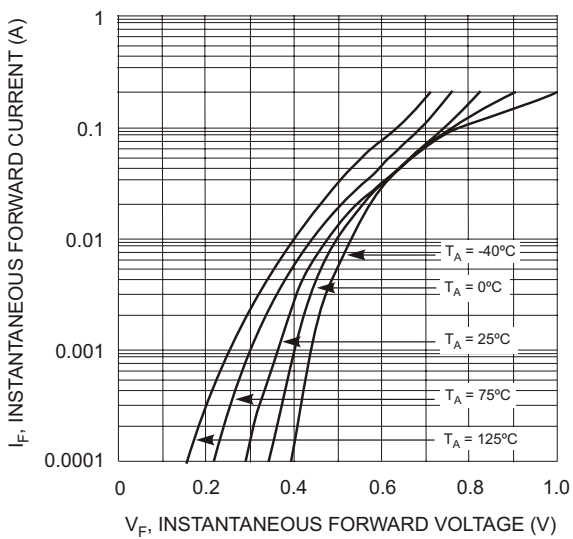


Fig. 1 Typical Forward Voltage

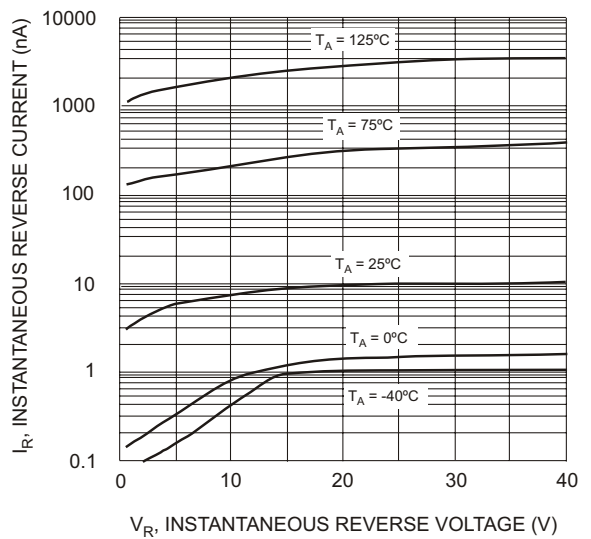


Fig. 2 Typical Reverse Characteristics

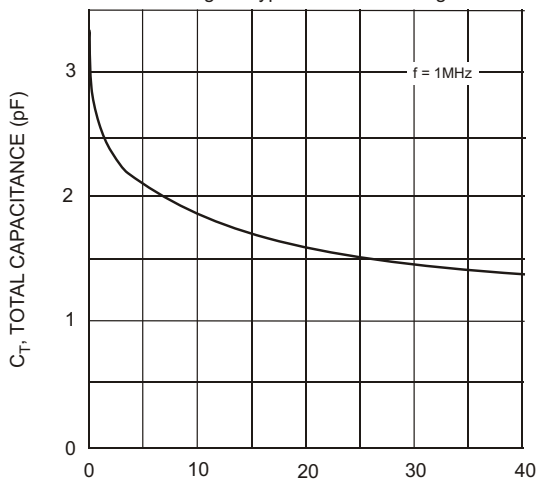


Fig. 3 Typical Capacitance

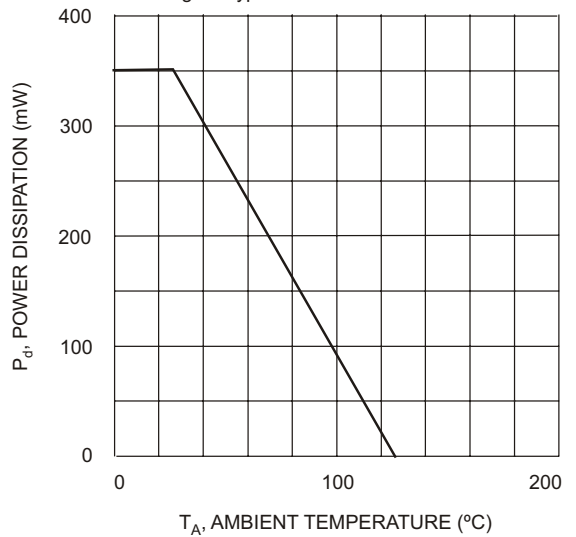
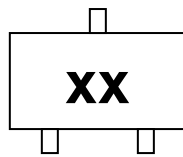


Fig. 4 Power Derating Curve, Total Package

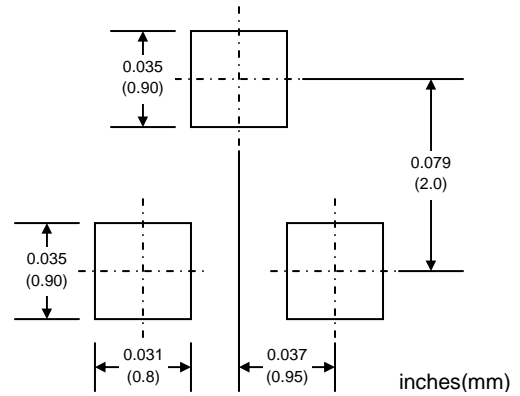
## MARKING INFORMATION



xx = Device Code, See Table Below

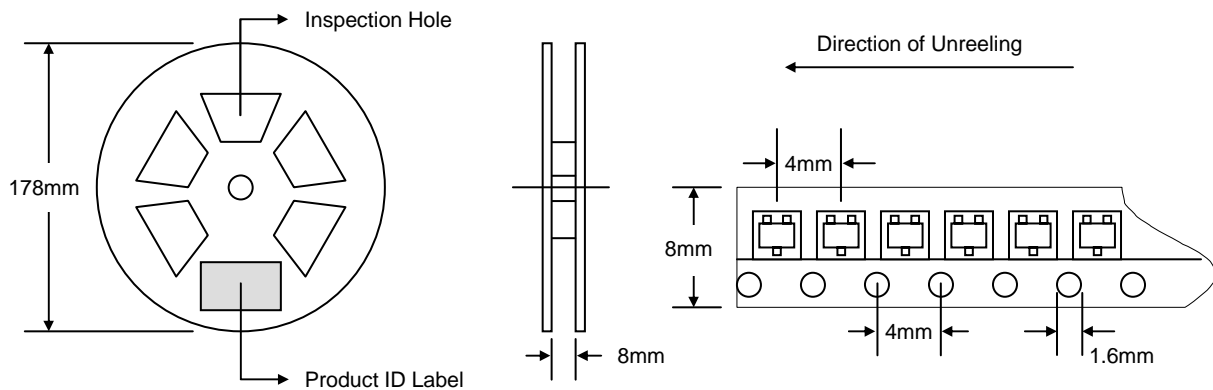
Mfg Site	BAS40	BAS40A	BAS40C	BAS40S
TW Plant	S40	S42	S43	S44
CN Plant	43	46	45	44

## RECOMMENDED FOOTPRINT



## PACKAGING INFORMATION

### TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
178	3,000	187 x 187 x 65	15,000	390 x 240 x 420	150,000	10.0

**Note:** 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.  
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
BAS40-T1	SOT-23	3000/Tape & Reel
BAS40A-T1	SOT-23	3000/Tape & Reel
BAS40C-T1	SOT-23	3000/Tape & Reel
BAS40S-T1	SOT-23	3000/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BAS40-T1-LF.**

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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*We power your everyday.*