

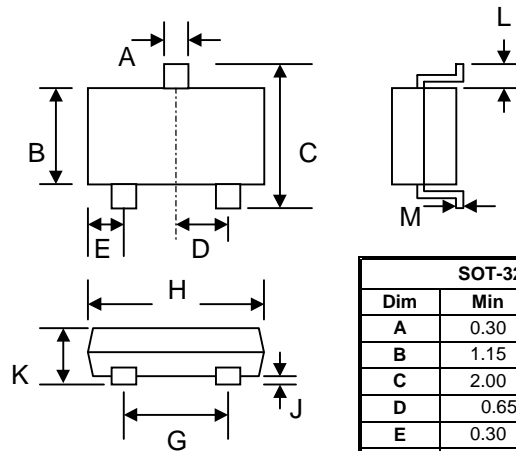
# BAS40W / AW / CW / SW

RoHS

## SURFACE MOUNT SCHOTTKY BARRIER DIODE

### Features

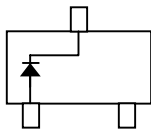
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-O



SOT-323		
Dim	Min	Max
A	0.30	0.40
B	1.15	1.35
C	2.00	2.20
D	0.65 Nominal	
E	0.30	0.40
G	1.20	1.40
H	1.80	2.20
J	—	0.10
K	0.90	1.10
L	0.25	—
M	0.05	0.15
All Dimensions in mm		

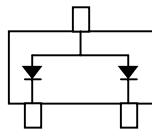
### Mechanical Data

- Case: SOT-323, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.006 grams (approx.)
- Mounting Position: Any
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 4**



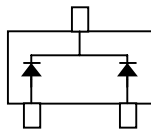
TOP VIEW

BAS40W Marking: S40



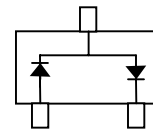
TOP VIEW

BAS40AW Marking: S42



TOP VIEW

BAS40CW Marking: S43



TOP VIEW

BAS40SW Marking: S44

### Maximum Ratings and Electrical Characteristics, Single Diode @<sub>T<sub>A</sub></sub>=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	40	V
Forward Continuous Current (Note 1)	I <sub>F</sub>	200	mA
Forward Surge Current (Note 1)	I <sub>FSM</sub>	600	mA
Power Dissipation (Note 1)	P <sub>d</sub>	200	mW
Typical Thermal Resistance, Junction to Ambient Air (Note 1)	R <sub>θJA</sub>	625	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>STG</sub>	-55 to +150	°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 $I_R = 1.0\text{mA}$ , $R_L = 100\Omega$

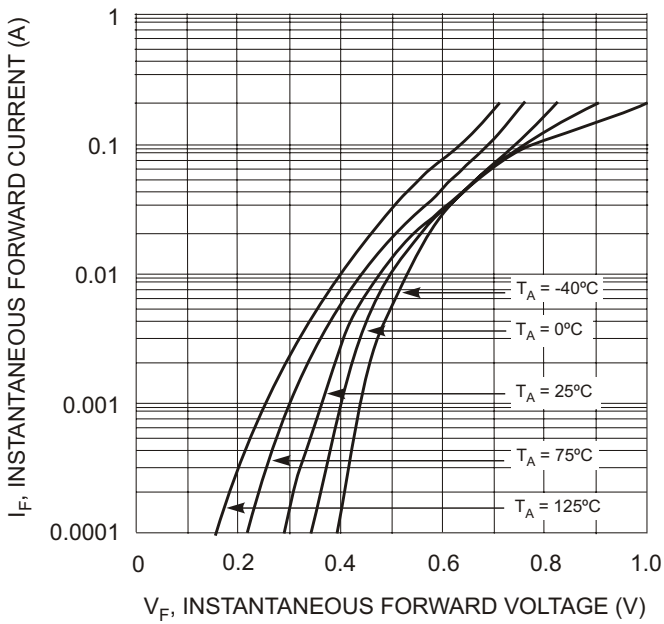


Fig. 1 Typical Forward Voltage

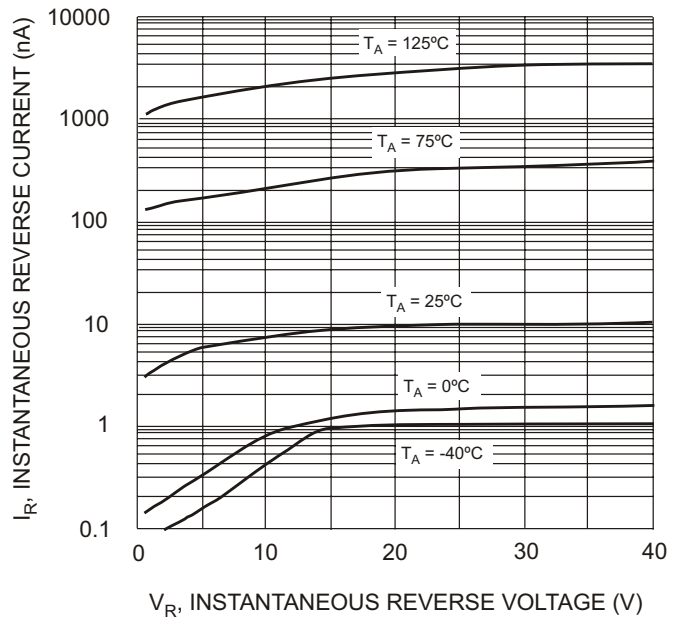


Fig. 2 Typical Reverse Characteristics

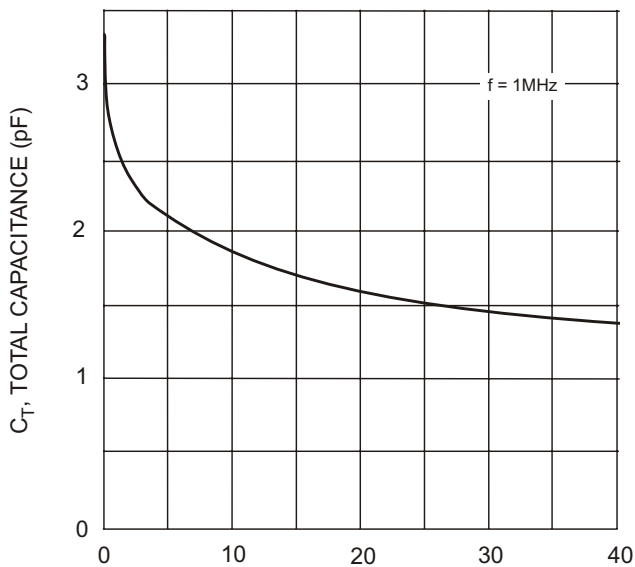


Fig. 3 Typical Capacitance

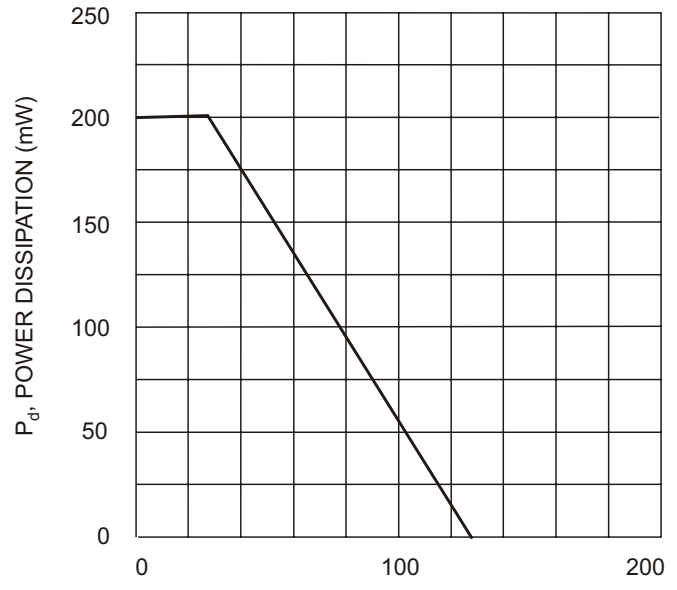
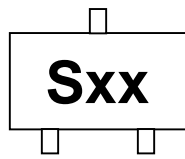


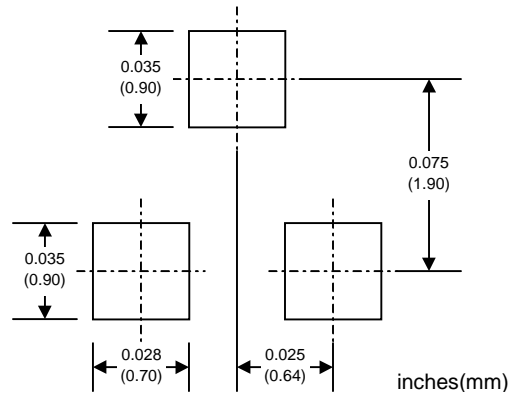
Fig. 4 Power Derating Curve, Total Package

## MARKING INFORMATION



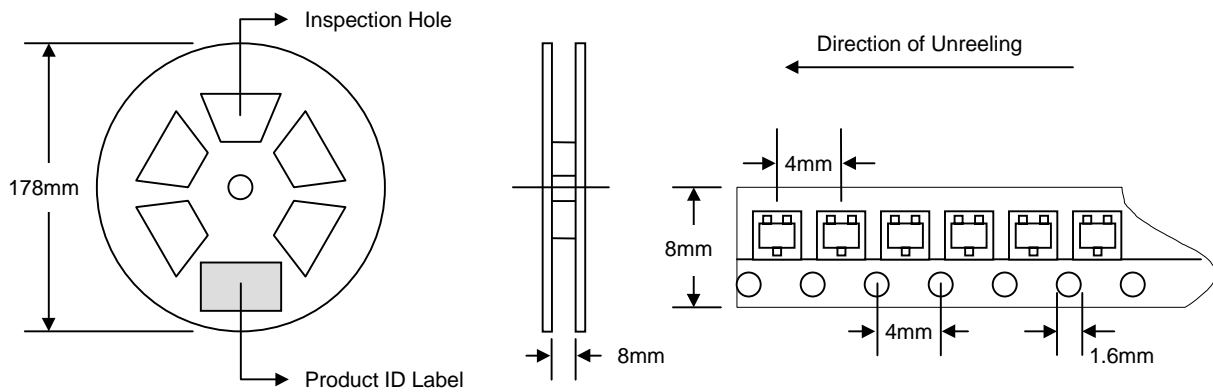
Sxx = Device Code  
 xx = 40 (BAS40W)  
 42 (BAS40AW)  
 43 (BAS40CW)  
 44 (BAS40SW)

## 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
BAS40W-T1	SOT-323	3000/Tape & Reel
BAS40AW-T1	SOT-323	3000/Tape & Reel
BAS40CW-T1	SOT-323	3000/Tape & Reel
BAS40SW-T1	SOT-323	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, BAS40W-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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