



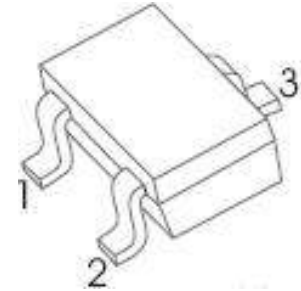
#### Features

- ◆ Low Forward Voltage Drop
- ◆ Fast Switching
- ◆ Ultra-Small Surface Mount Package
- ◆ PN Junction Guard Ring for Transient and ESD Protection

#### Mechanical Data

- ◆ Case: SOT-323, Molded Plastic
- ◆ Case Material - UL Flammability Rating Classification 94V-0
- ◆ Moisture sensitivity: Level 1 per J-STD-020A
- ◆ Terminals: Solderable per MIL-STD-202, Method 208
- ◆ Polarity: See Diagrams Below
- ◆ Marking: See Diagrams Below
- ◆ Weight: 0.006 grams (approx.)

#### SOT-323



BAS40W	BAS40W-06	BAS40W-05	BAS40W-04
BAS40W Marking: 43	BAS40W-06 Marking: 46	BAS40W-05 Marking: 45	BAS40W-04 Marking: 44

#### Maximum Ratings @Ta=25°C

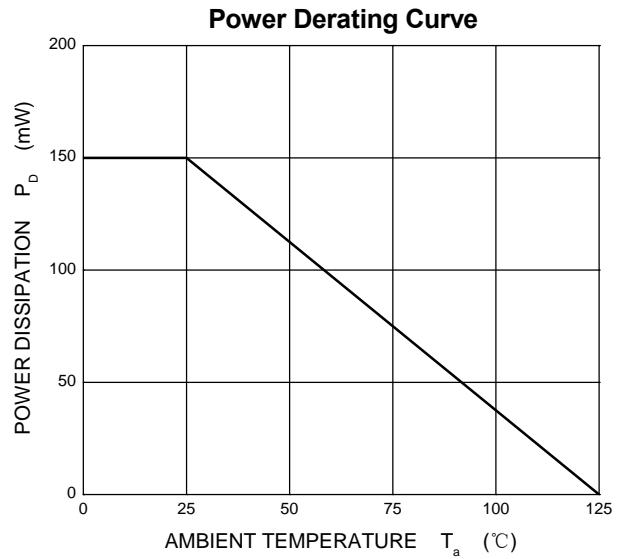
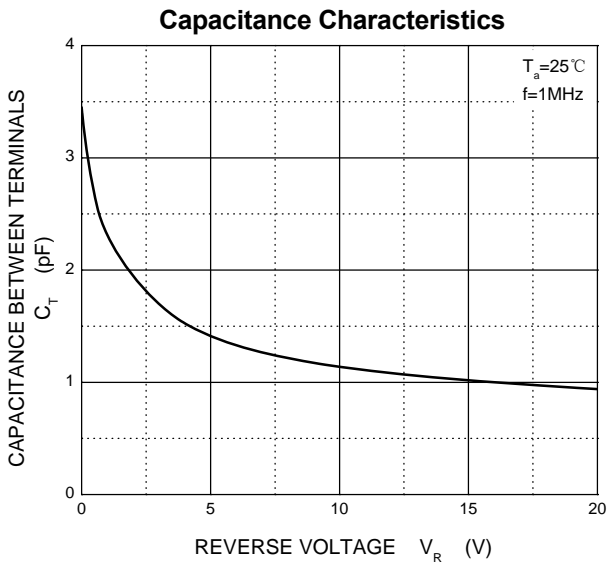
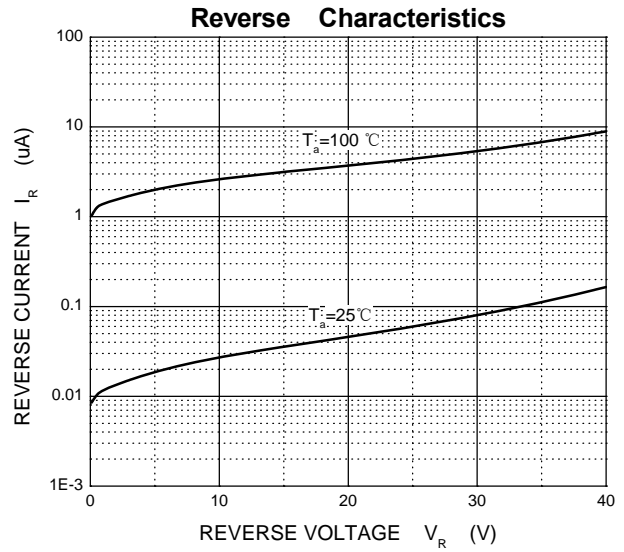
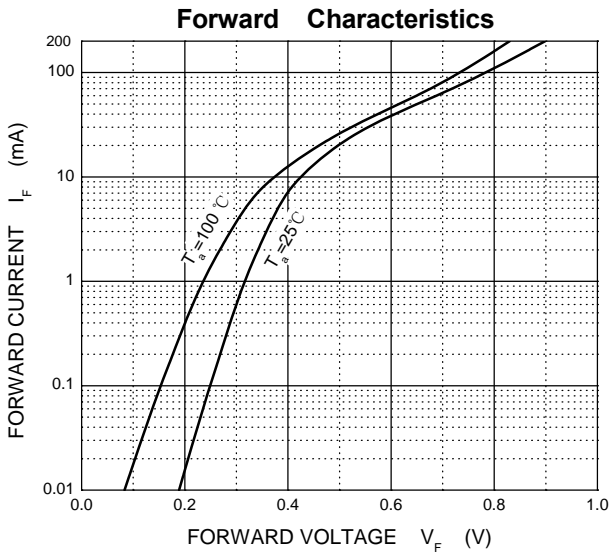
Parameter	Symbol	Limit	Unit
Peak repetitive peak reverse voltage Working	$V_{RRM}$	40	V
peak reverse voltage	$V_{RWM}$		
DC blocking voltage	$V_R$		
Forward continuous current	$I_{FM}$	200	mA
Power dissipation	$P_D$	150	mW
Thermal resistance junction to ambient	$R_{\theta JA}$	667	°C/W
Junction temperature	$T_J$	125	°C
Storage temperature range	$T_{STG}$	-55~+150	°C

#### ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)

Parameter	Symbol	Test conditions	Min	Max	Unit
Reverse breakdown voltage	$V_{(BR)}$	$I_R = 10\mu A$	40		V
Reverse voltage leakage current	$I_R$	$V_R = 30V$		200	nA
Forward voltage	$V_F$	$I_F = 1mA$ $I_F = 40mA$		380 1000	mV
Diode capacitance	$C_D$	$V_R = 0, f = 1MHz$		5	pF
Reverse recovery time	$t_{rr}$	$I_{rr} = 1mA, I_R = I_F = 10mA$ $R_L = 100\Omega$		5	ns

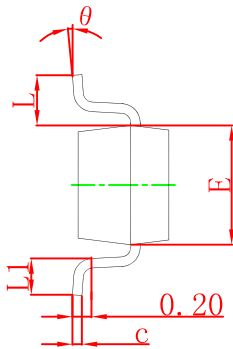
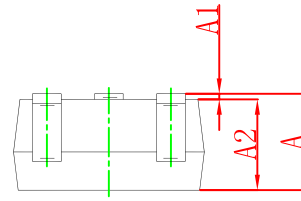
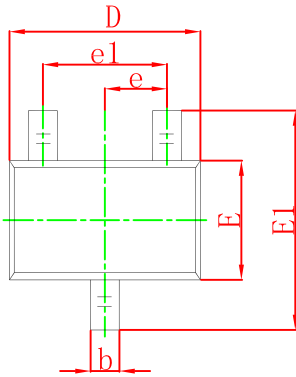


#### Typical Characteristics



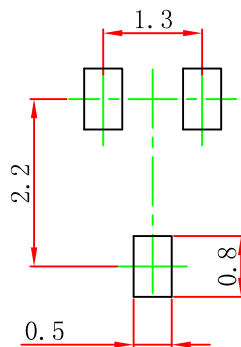


#### SOT-323 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.100	0.035	0.043
A1	0.000	0.100	0.000	0.004
A2	0.900	1.000	0.035	0.039
b	0.200	0.400	0.008	0.016
c	0.080	0.150	0.003	0.006
D	2.000	2.200	0.079	0.087
E	1.150	1.350	0.045	0.053
E1	2.150	2.450	0.085	0.096
e	0.650 TYP		0.026 TYP	
e1	1.200	1.400	0.047	0.055
L	0.525 REF		0.021 REF	
L1	0.260	0.460	0.010	0.018
theta	0°	8°	0°	8°

#### SOT-323 Suggested Pad Layout



**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.