

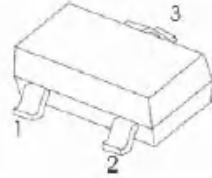
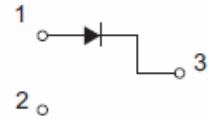


BAS19T/BAS20T SWITCHING DIODE

FEATURE

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

MARKING: BAS19:JP
BAS20:JR



SOT - 523

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	BAS19	BAS20	Unit
V_{RRM}	Repetitive Peak Reverse Voltage	120	200	V
V_{RWM}	Working Peak Reverse Voltage	100	150	V
I_O	Average Rectified Output Current	200		mA
I_{FSM}	Non-Repetitive Peak Forward Surge Current @ $t=8.3\text{ms}$	2.5		A
P_d	Power Dissipation	250		mW
$R_{\theta JA}$	Thermal Resistance from Junction to Ambient	500		$^{\circ}\text{C}/\text{W}$
T_J	Junction temperature	150		$^{\circ}\text{C}$
T_{stg}	Storage Temperature	$-55 \sim +150$		$^{\circ}\text{C}$

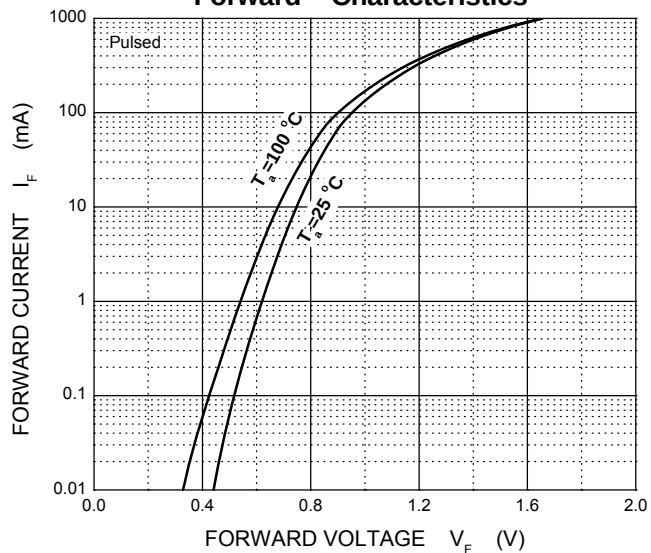
ELECTRICAL CHARACTERISTICS ($T_A = 25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min	Typ	Max	Unit
Reverse breakdown voltage	BAS19 BAS20 $V_{(BR)}$	$I_R=100\mu\text{A}$	120 200			V
Reverse current	BAS19 BAS20 I_R	$V_R=100\text{V}$ $V_R=150\text{V}$			0.1	μA
Forward voltage	V_F	$I_F=100\text{mA}$			1	V
		$I_F=200\text{mA}$			1.25	V
Diodes capacitance	C_D	$V_R=0\text{V}$, $f=1\text{MHz}$			5	pF
Reveres recovery time	t_{rr}	$I_F=I_R=30\text{mA}$, $I_{rr}=0.1*I_R$			50	ns

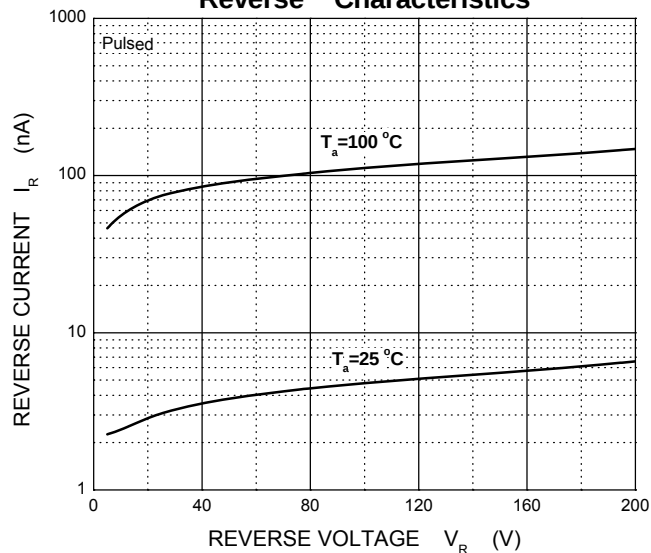


Typical Characteristics

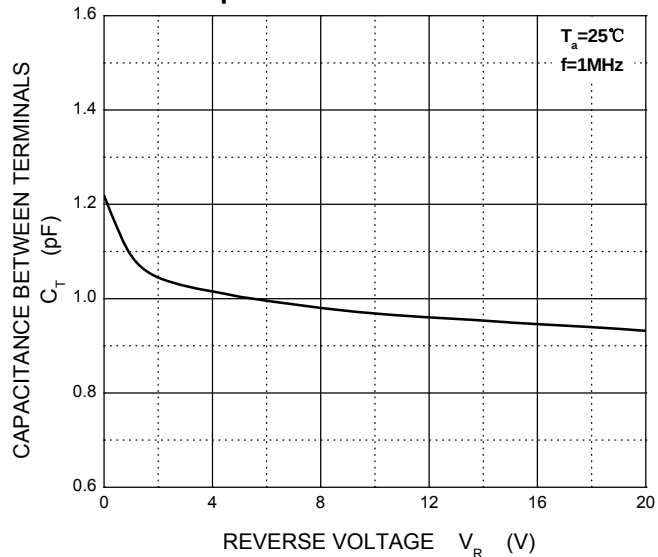
Forward Characteristics



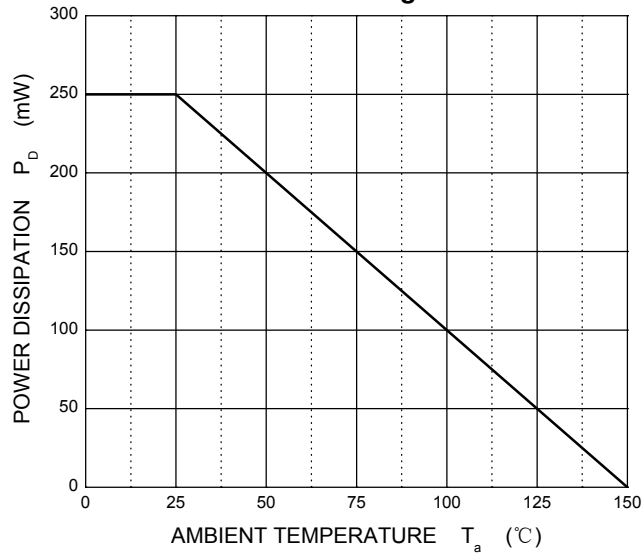
Reverse Characteristics



Capacitance Characteristics

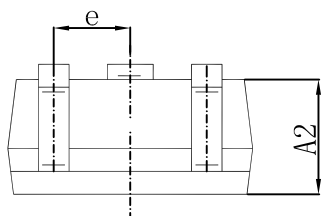
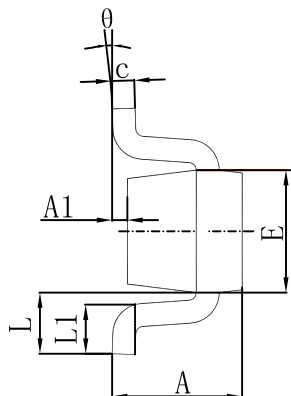
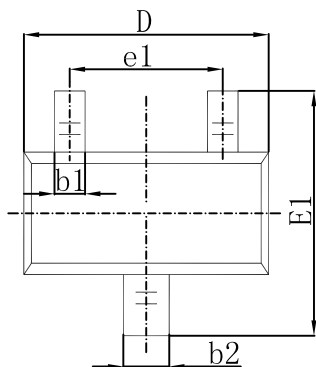


Power Derating Curve



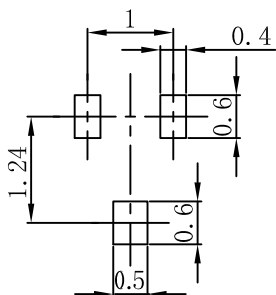


SOT-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.700	0.900	0.028	0.035
A1	0.000	0.100	0.000	0.004
A2	0.700	0.800	0.028	0.031
b1	0.150	0.250	0.006	0.010
b2	0.250	0.350	0.010	0.014
c	0.100	0.200	0.004	0.008
D	1.500	1.700	0.059	0.067
E	0.700	0.900	0.028	0.035
E1	1.450	1.750	0.057	0.069
e	0.500 TYP.		0.020 TYP.	
e1	0.900	1.100	0.035	0.043
L	0.400 REF.		0.016 REF.	
L1	0.260	0.460	0.010	0.018
θ	0°	8°	0°	8°

SOT-523 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.