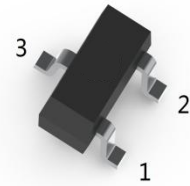
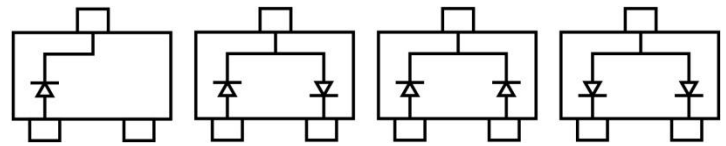


FEATURES

- Low Forward Voltage
- Fast Switching
- Surface Mount device
- For General Purpose Switching Applications

**SOT-23****MECHANICAL DATA**

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Weight: 0.013 grams (approximate)



BAS40:B1

BAS40-04:CB

BAS40-05:45

BAS40-06:L2

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

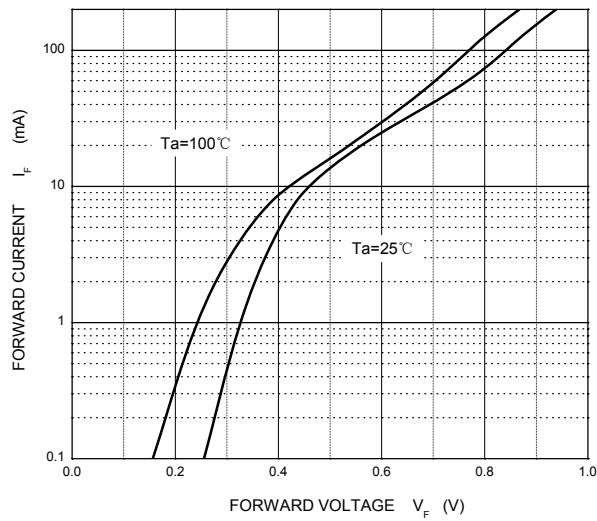
Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	40	V
Peak Repetitive Peak Reverse Voltage	V_{RRM}		
Working Peak Reverse Voltage	V_{RWM}		
Forward Continuous Current	I_F	200	mA
Power Dissipation	P_D	200	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	500	$^\circ\text{C/W}$
Junction Temperature	T_J	125	$^\circ\text{C}$
Storage Temperature	T_{STG}	-55 ~+150	$^\circ\text{C}$

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

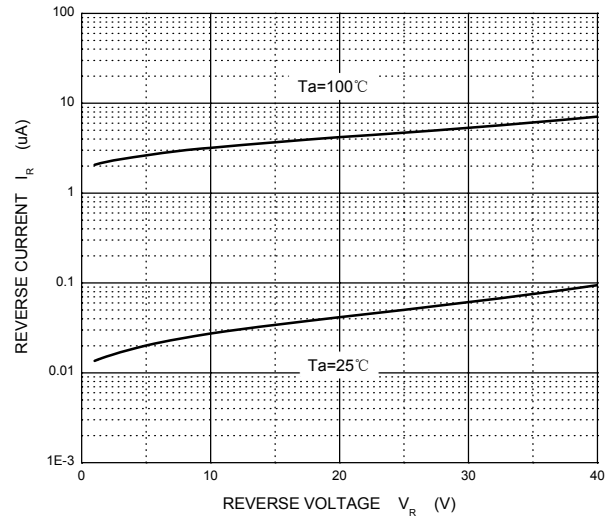
Parameter	Symbol	Min	Max	Unit	Conditions
Reverse breakdown voltage	$V_{(BR)}$	40		V	$I_R=10\mu\text{A}$
Reverse voltage leakage current	I_R		200	nA	$V_R=30\text{V}$
Forward voltage	V_{F1}		0.38	V	$I_{F1}=1\text{mA}$
	V_{F2}		1	V	$I_{F2}=40\text{mA}$
Diode capacitance	C_D		5	pF	$V_R=0\text{V}, f=1\text{MHz}$
Reverse recovery time	T_{rr}		5	nS	$I_F=I_R=10\text{mA}$ $I_{rr}=0.1 \times I_R$ $R_L=100\Omega$

Typical Characteristics

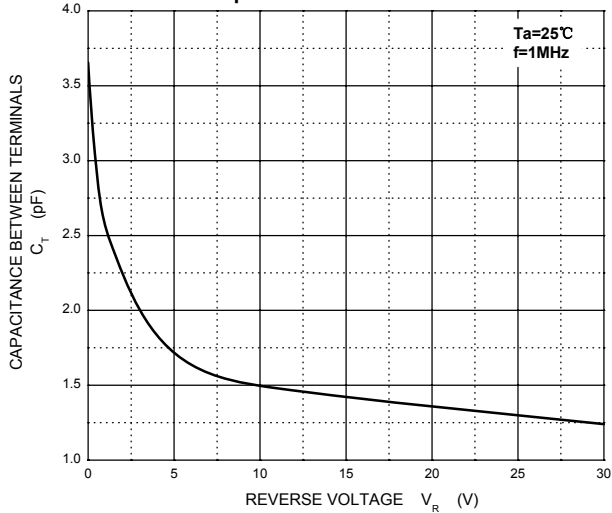
Forward Characteristics



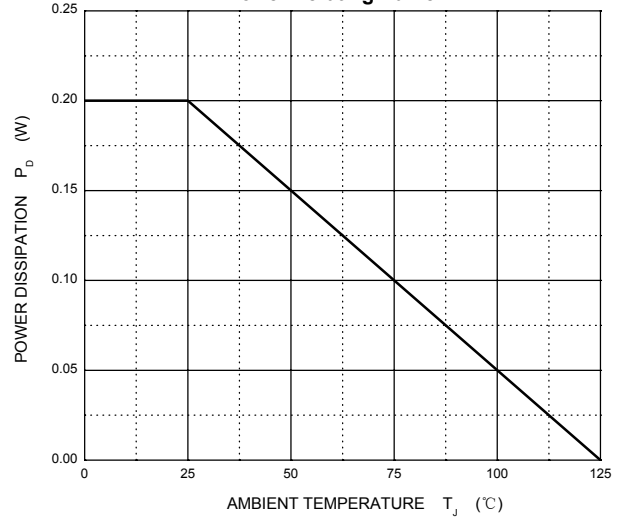
Reverse Characteristics

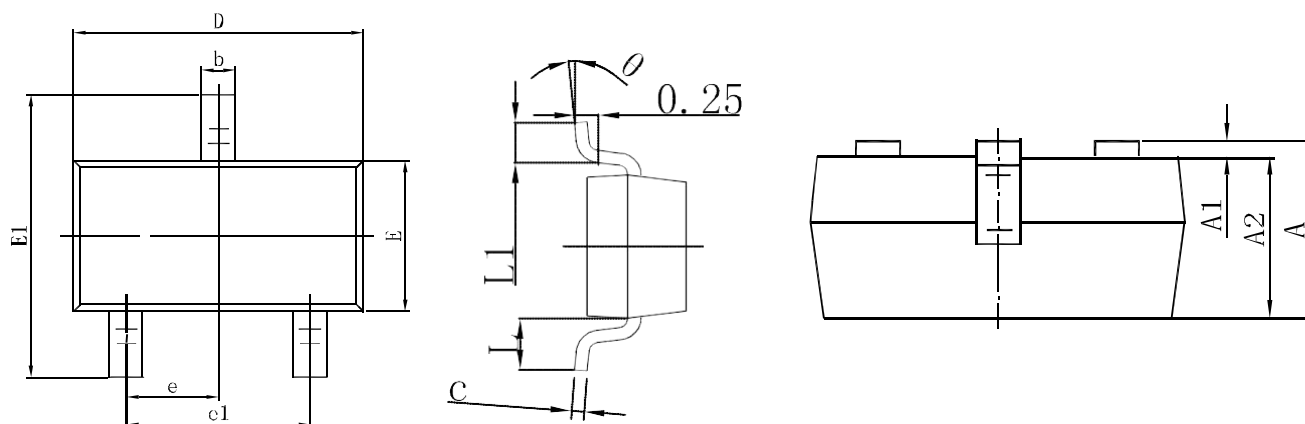


Capacitance Characteristics

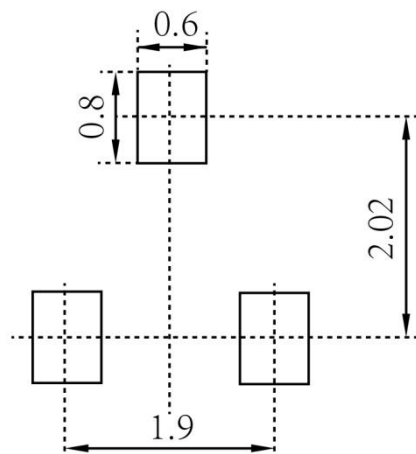


Power Derating Curve



SOT-23 Package Outline Dimensions


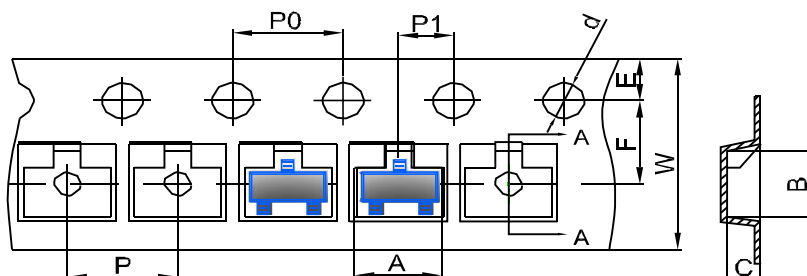
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 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

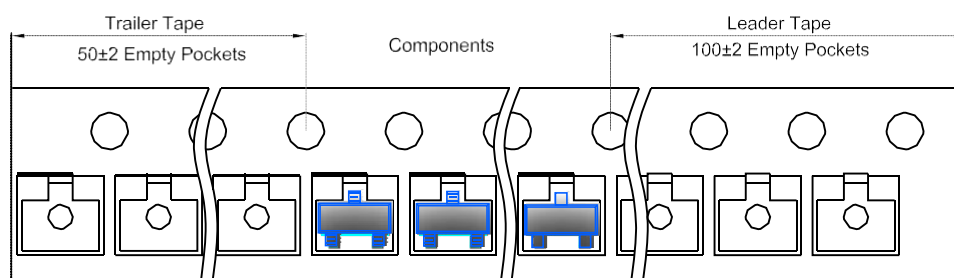
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

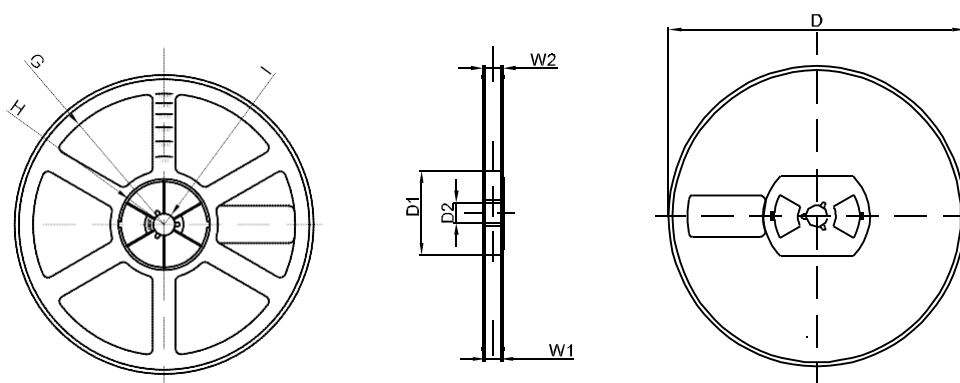


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

SOT-23 Tape Leader and Trailer



SOT-23 Reel



DIMENSIONS ARE IN MILLIMETER								
REEL OPTION	D	D1	D2	G	H	I	W1	W2
7" DIA	Ø178	54.40	13.00	R78	R25.60	R6.50	9.50	12.30
TOLERANCE	±2	±1	±1	±1	±1	±1	±1	±1