SWITCHING DIODE

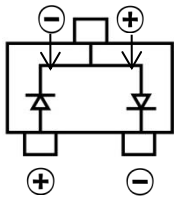
FEATURES

- Fast Switching
- High Conductance
- 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: 0.008 grams (approximate)



BAS21S:JS4

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Non-Repetitive Peak Reverse Voltage	V_{RM}	250	V
DC Blocking Reverse Voltage	V_R	250	V
Forward Current	I_F	400	mA
Average Rectified Output Current	I_O	200	mA
Non-Repetitive Peak Forward Surge Current @t@=8.3ms	I_{FSM}	2.5	A
Repetitive Peak Forward Surge Current	I_{FRM}	625	mA
Power Dissipation	P_D	225	mW
Thermal Resistance From Junction To Ambient	$R_{\theta JA}$	555	°C/W
Junction Temperature	T_J	150	°C
Storage Temperature	T_{STG}	-55 ~+150	°C

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise specified)

Parameter	Symbol	Min	Max	Unit	Conditions
Reverse breakdown voltage	$V_{(BR)}$	250		V	I_R=100uA
Reverse voltage leakage current	I_R		0.1	uA	V_R=200V
Forward voltage	V_F		1	V	I_F=100mA
Diode capacitance	C_D		5	pF	V_R=0V,f=1MHz
Reverse recovery time	T_{rr}		50	nS	I_F=I_R=30mA I_{rr}=0.1×I_R R_L=100Ω

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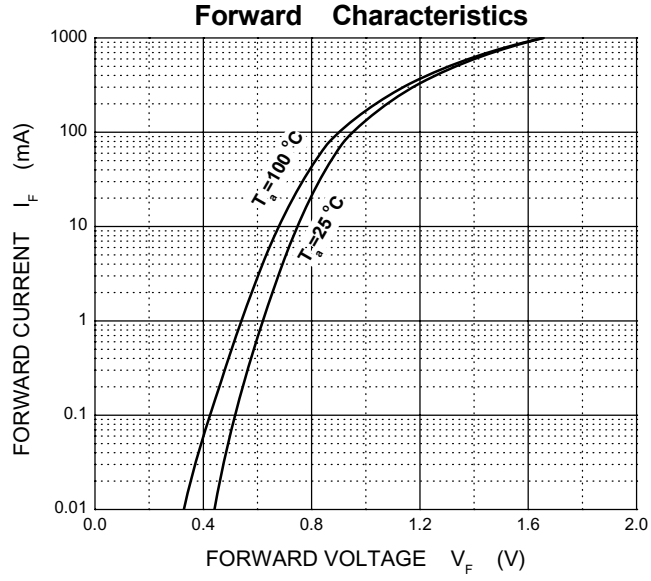
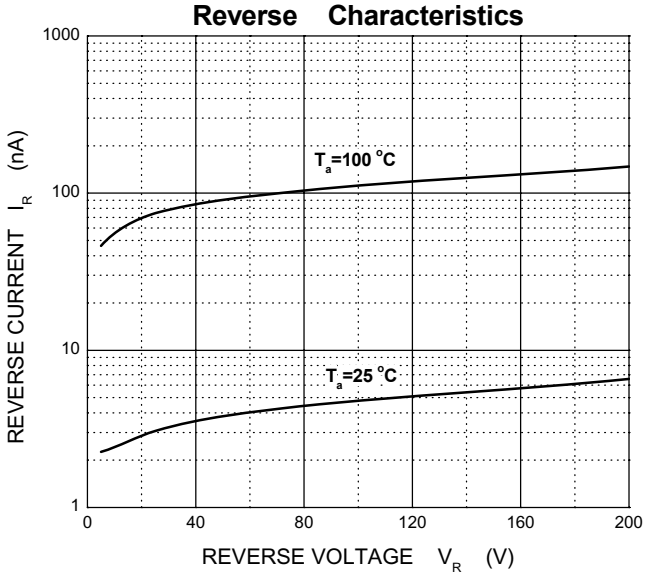
E-mail:hkt@heketai.com

Typical Characteristics

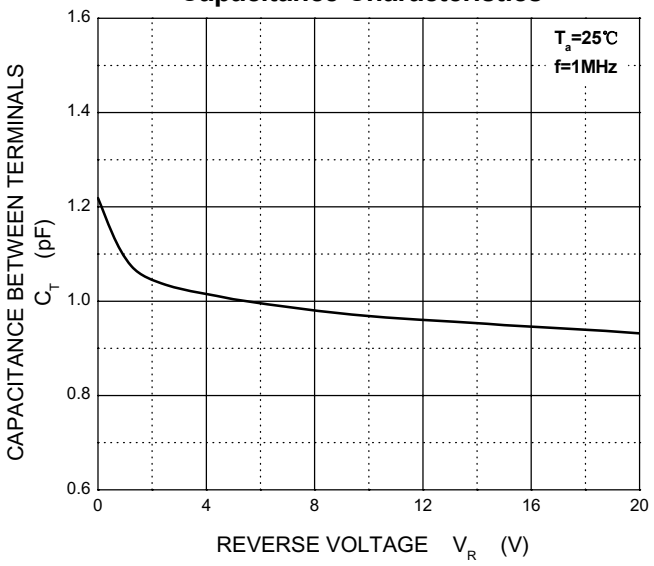
Forward Characteristics



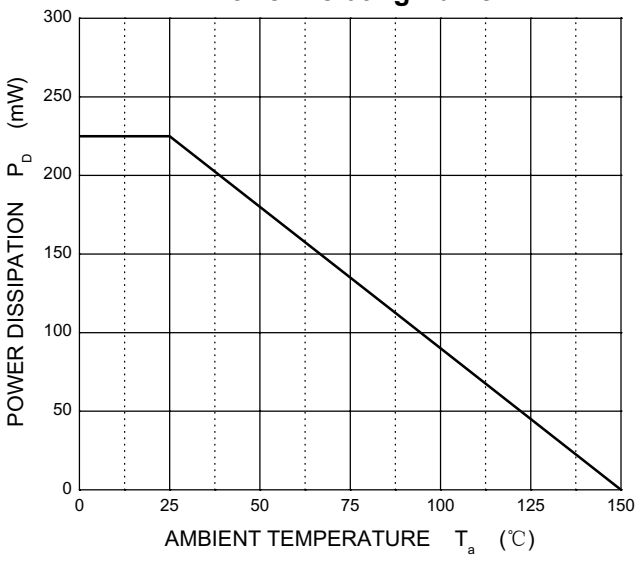
Reverse Characteristics



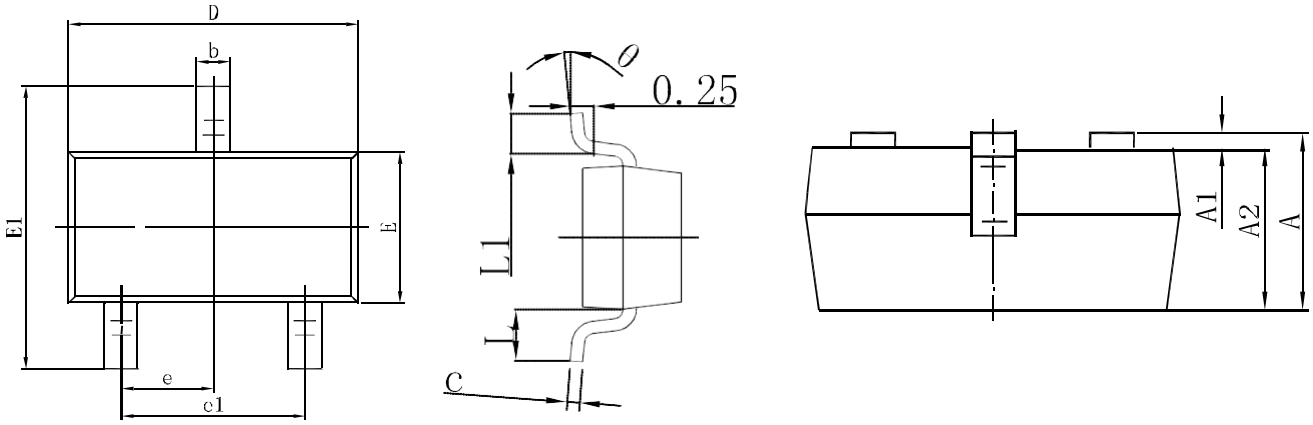
Capacitance Characteristics



Power Derating Curve

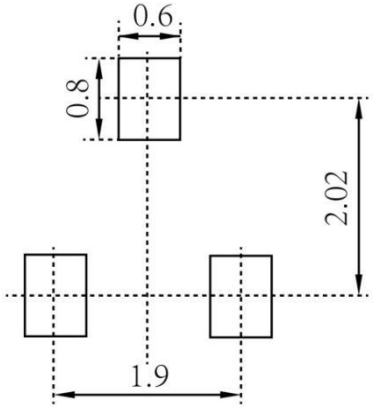


SOT-23 Package Outline Dimensions



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:

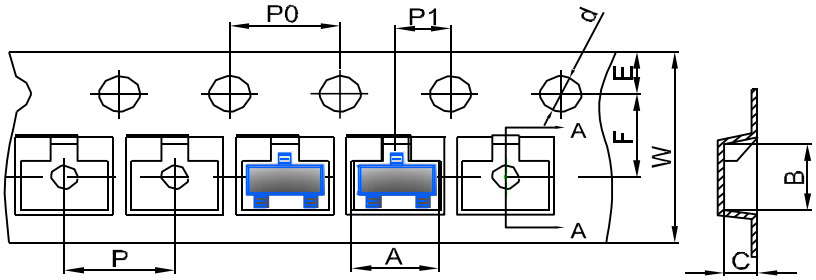
1.Controlling dimension: in millimeters

2.General tolerance: ±0.05mm

3.The pad layout is for reference purposes only

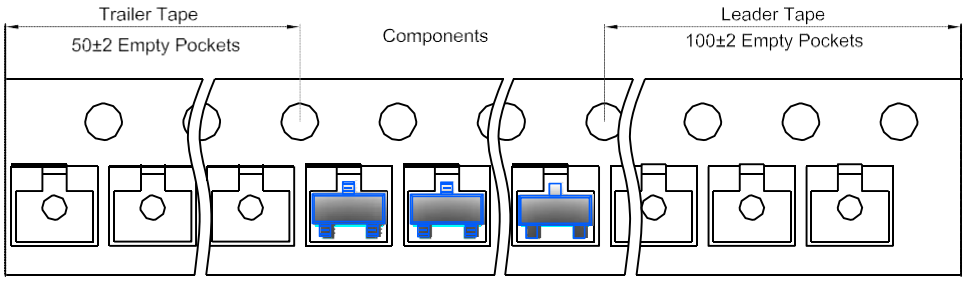
SOT-23 Tape and Reel

SOT-23 Embossed Carrier Tape

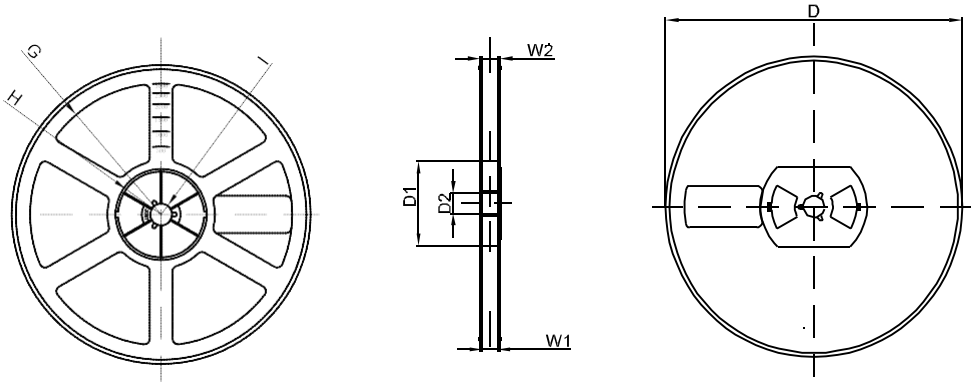


	DIMENSIONS ARE IN MILLIMETER									
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

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