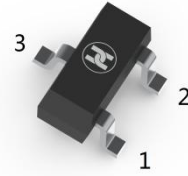
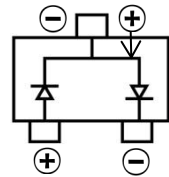


**FEATURES**

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


**SOT-23**


BAT54S:KL4

**MECHANICAL DATA**

- Case: SOT-23
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 0.013 grams (approximate)

**MAXIMUM RATINGS (T<sub>A</sub> = 25°C unless otherwise noted)**

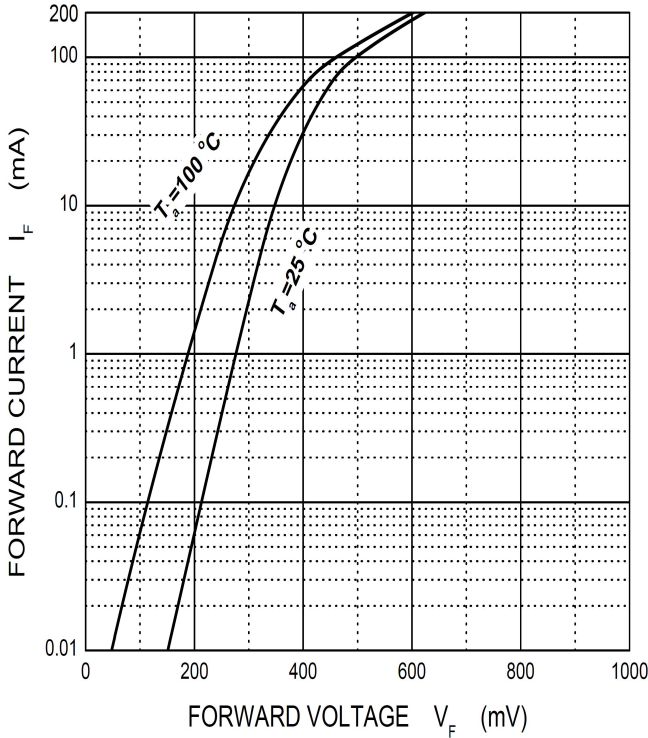
Parameter	Symbol	Value	Unit
Reverse Voltage	V <sub>R</sub>	30	V
Peak Repetitive Peak Reverse Voltage	V <sub>RRM</sub>		
Working Peak Reverse Voltage	V <sub>RWM</sub>		
Forward Continuous Current	I <sub>F</sub>	200	mA
Power Dissipation	P <sub>D</sub>	200	mW
Thermal Resistance From Junction To Ambient	R <sub>θJA</sub>	500	°C/W
Junction Temperature	T <sub>J</sub>	125	°C
Storage Temperature	T <sub>STG</sub>	-55 ~+150	°C

**ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise specified)**

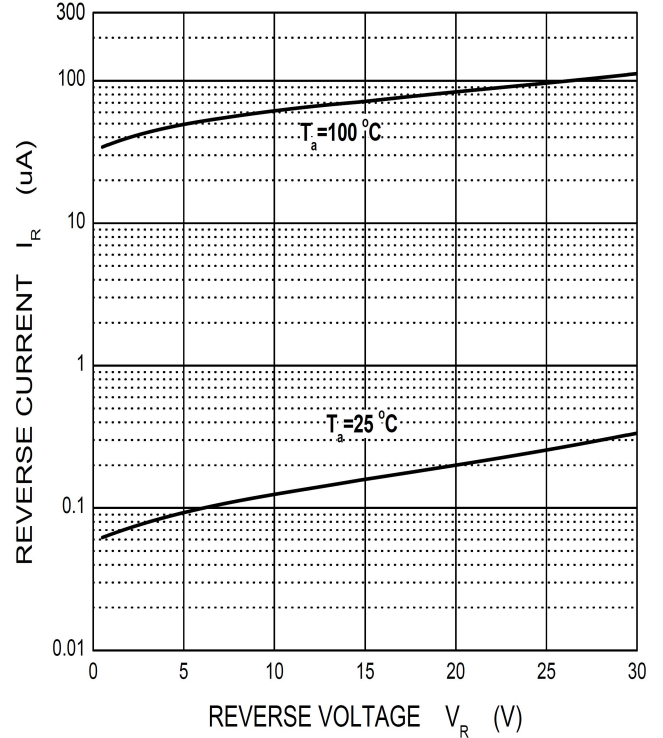
Parameter	Symbol	Min	Max	Unit	Conditions
Reverse breakdown voltage	V <sub>(BR)</sub>	30		V	I <sub>R</sub> =100uA
Reverse voltage leakage current	I <sub>R</sub>		2	uA	V <sub>R</sub> =25V
Forward voltage	V <sub>F1</sub>		0.24	V	I <sub>F1</sub> =0.1 mA
	V <sub>F2</sub>		0.32	V	I <sub>F2</sub> =1 mA
	V <sub>F3</sub>		0.40	V	I <sub>F3</sub> =10mA
	V <sub>F4</sub>		0.50	V	I <sub>F4</sub> =30 mA
	V <sub>F5</sub>		1	V	I <sub>F5</sub> =100 mA
Diode capacitance	C <sub>D</sub>		10	pF	V <sub>R</sub> =1V,f=1MHz
Reverse recovery time	T <sub>rr</sub>		5	nS	I <sub>F</sub> =I <sub>R</sub> =10mA I <sub>rr</sub> =0.1×I <sub>R</sub> R <sub>L</sub> =100Ω

**Typical Characteristics**

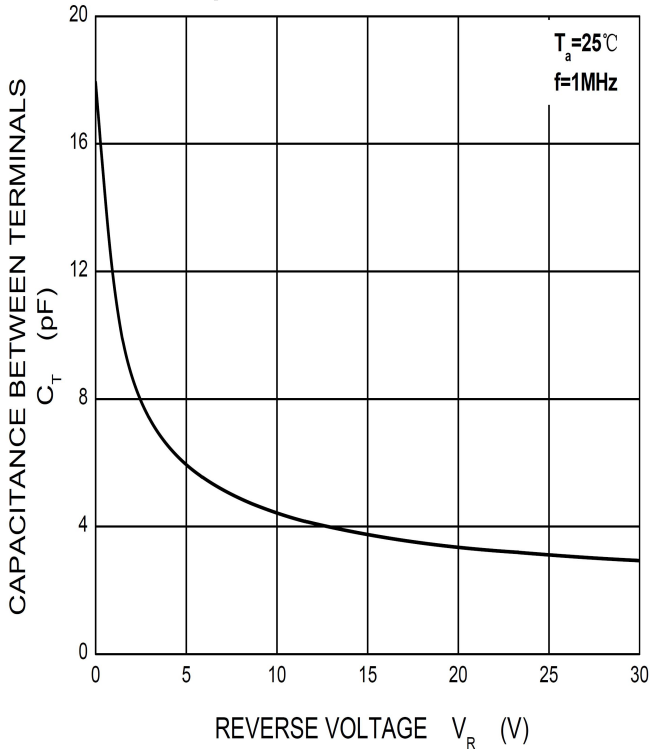
**Forward Characteristics**



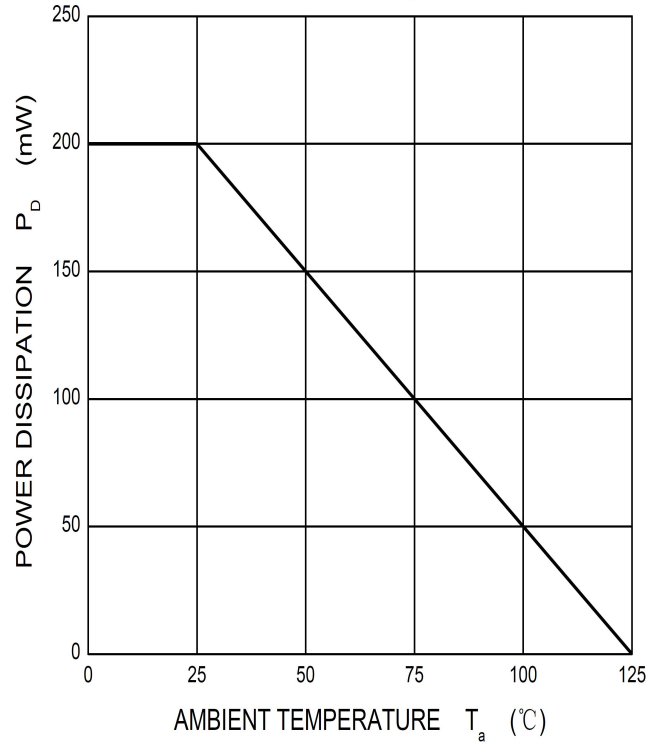
**Reverse Characteristics**

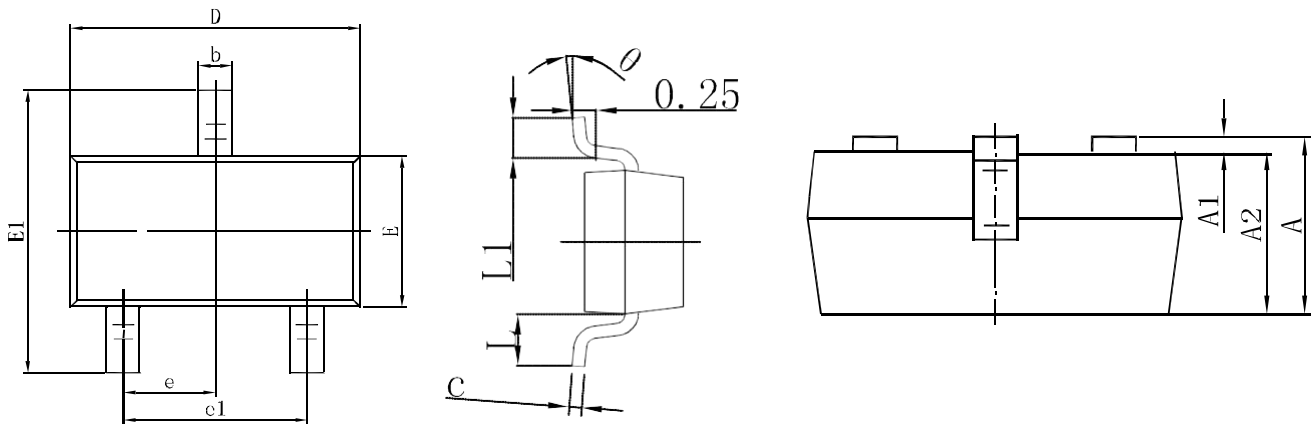


**Capacitance Characteristics**

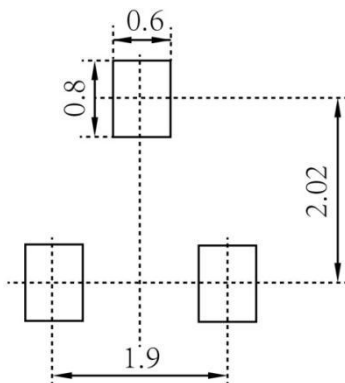


**Power Derating Curve**



**SOT-23 Package Outline Dimensions**


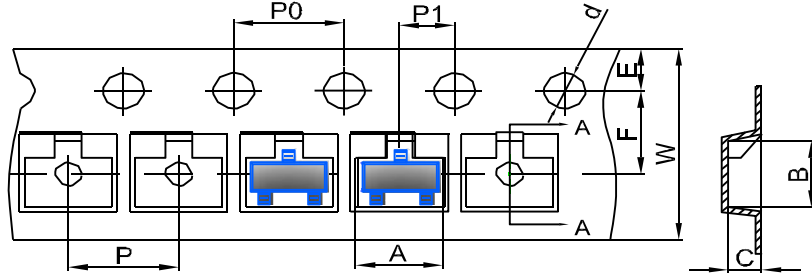
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		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
$\theta$	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

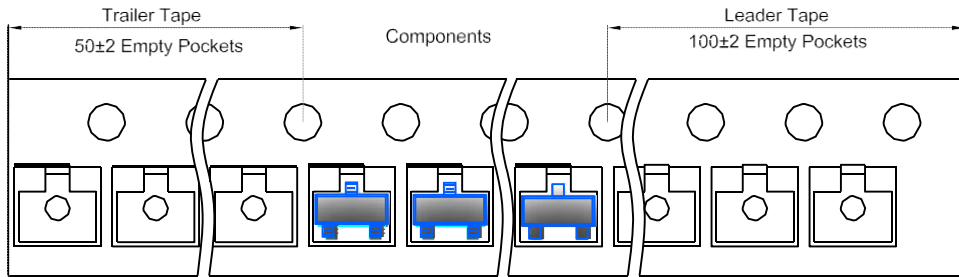
**SOT-23 Tape and Reel**

**SOT-23 Embossed Carrier Tape**

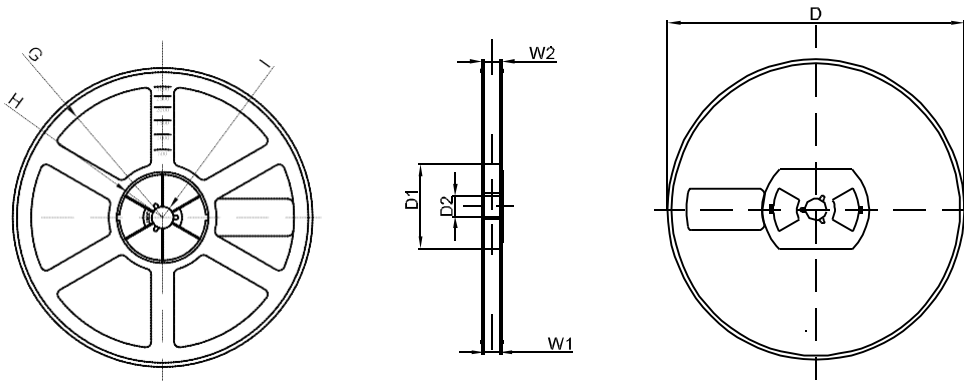


DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P0	P	P1	W
SOT-23	3.15	2.77	1.22	Ø1.50	1.75	3.50	4.00	4.00	2.00	8.00
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1	±0.1

**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