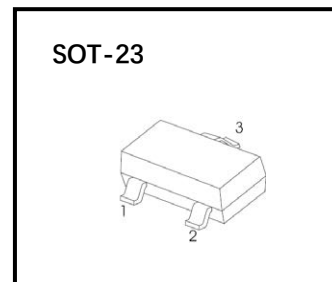




## AD-BAT54/A/C/S Plastic-Encapsulated Diode

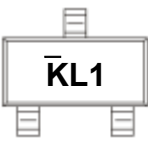
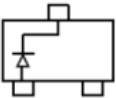
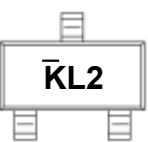
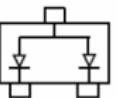
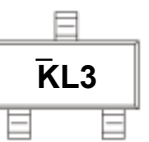
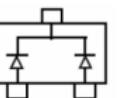

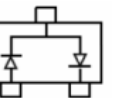
**AD-BAT54/A/C/S Schottky barrier diode**



### FEATURES

- Extremely high switching speed
- AEC-Q101 qualified

### MARKING AND EQUIVALENT CIRCUIT

AD-BAT54		AD-BAT54A		AD-BAT54C		AD-BAT54S	
Marking	Equivalent circuit	Marking	Equivalent circuit	Marking	Equivalent circuit	Marking	Equivalent circuit
							

KL\* = Device code

**MAXIMUM RATINGS ( $T_j = 25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak repetitive reverse voltage	$V_{RRM}$	30	V
Working peak reverse voltage	$V_{RWM}$	30	V
DC blocking voltage	$V_R$	30	V
Forward continuous current	$I_{FM}$	200	mA
Non-repetitive peak forward surge current @ $t = 8.3\text{ms}$	$I_{FSM}$	600	mA
Peak repetitive forward current @ $t \leq 1\text{s}, \delta \leq 0.5$	$I_{FRM}$	300	mA
Power dissipation	$P_D$	200	mW
Thermal resistance from junction to ambient	$R_{\theta JA}^{1)}$	500	$^\circ\text{C}/\text{W}$
Operating junction temperature range	$T_j$	-40 ~ 125	$^\circ\text{C}$
Storage temperature range	$T_{stg}$	-55 ~ 150	$^\circ\text{C}$

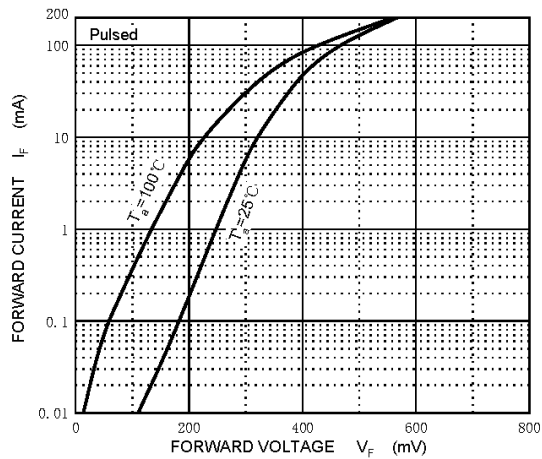
**ELECTRICAL CHARACTERISTICS ( $T_j = 25^\circ\text{C}$  unless otherwise specified)**

Parameter	Symbol	Test condition	Min	Typ	Max	Unit
Reverse voltage	$V_{BR}$	$I_R = 100\mu\text{A}$	30			V
Forward voltage	$V_{F1}$	$I_F = 0.1\text{mA}$	-	-	0.24	V
	$V_{F2}$	$I_F = 1\text{mA}$	-	-	0.32	
	$V_{F3}$	$I_F = 10\text{mA}$	-	-	0.40	
	$V_{F4}$	$I_F = 30\text{mA}$	-	-	0.50	
	$V_{F5}$	$I_F = 100\text{mA}$	-	-	1	
Reverse current	$I_R$	$V_R = 25\text{V}$	-	-	2	$\mu\text{A}$
Diode capacitance	$C_D$	$V_R = 1\text{V}, f = 1\text{MHz}$	-	-	10	pF
Reverse recovery time	$t_{rr}$	$I_F = I_R = 10\text{mA}, I_{rr} = 1\text{mA}, R_L = 100\Omega$	-	-	5	ns

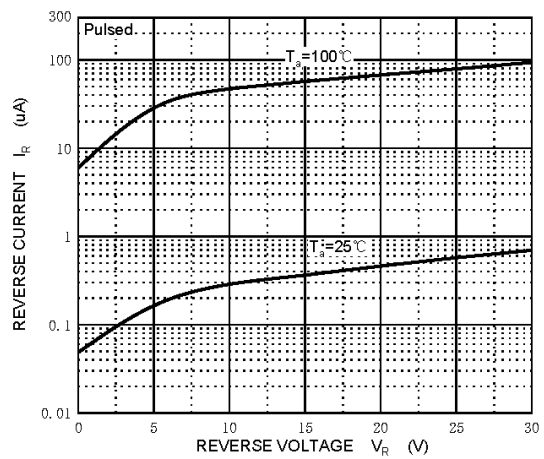
1) Measured with the device mounted on 1 inch<sup>2</sup> FR-4 board with 1oz. single-side copper, in a still air environment with  $T_a = 25^\circ\text{C}$ .

# TYPICAL CHARACTERISTICS

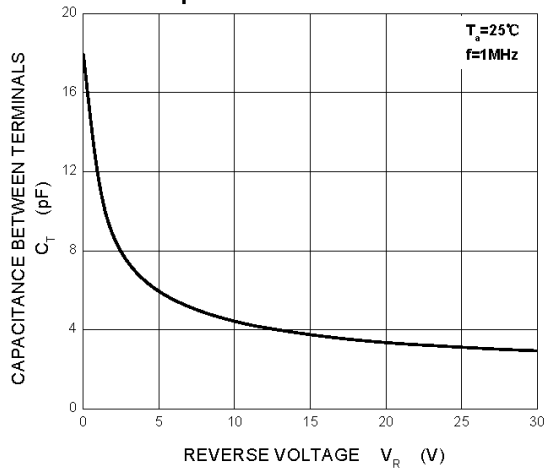
**Forward Characteristics**



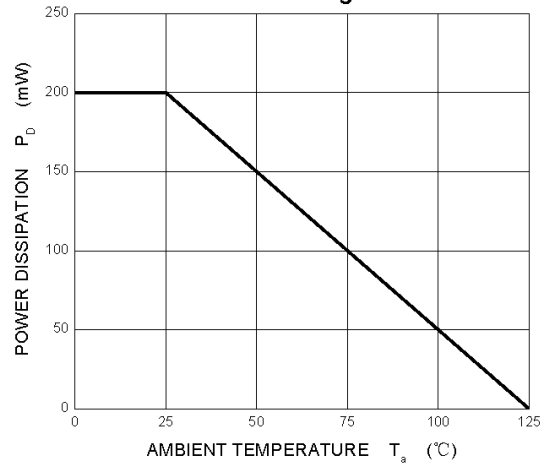
**Reverse Characteristics**



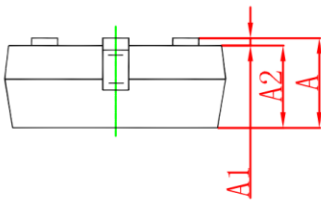
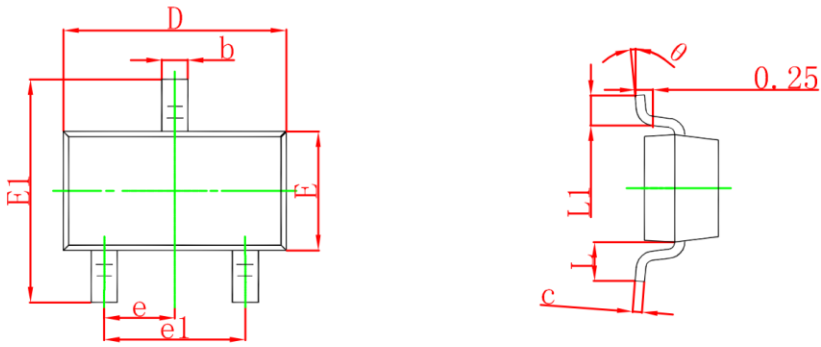
**Capacitance Characteristics**



**Power Derating Curve**

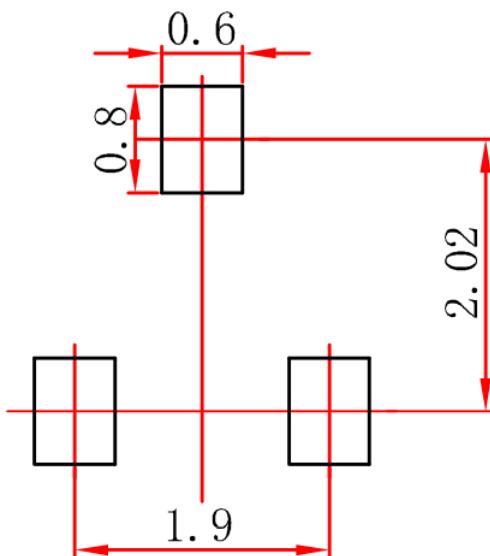


## SOT-23 PACKAGE OUTLINE DIMENSIONS



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

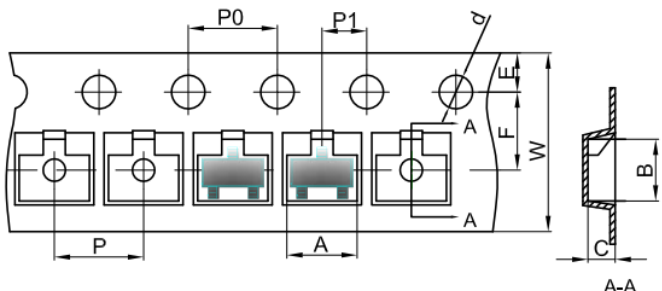


## Note:

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

### SOT-23 TAPE AND REEL

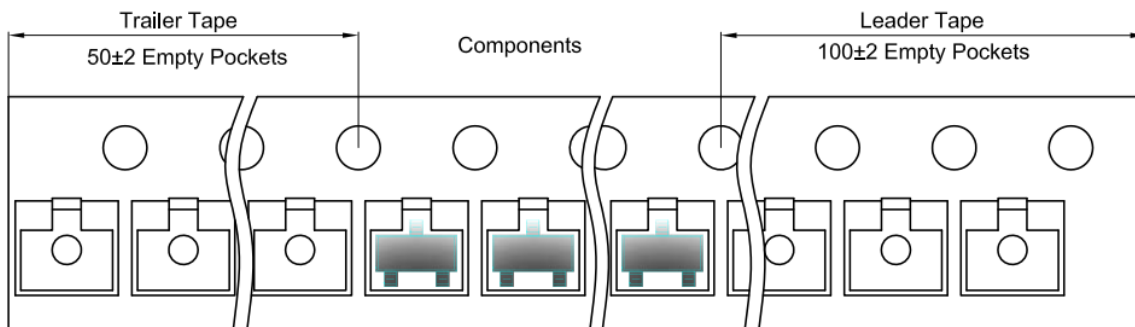
#### SOT-23 Embossed Carrier Tape



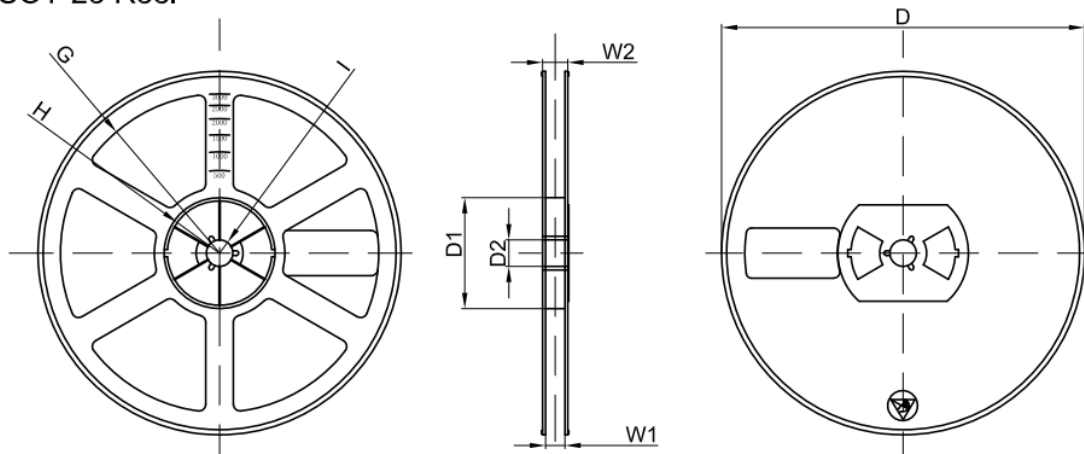
**Packaging Description:**  
 SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3,000 units per 7" or 17.8cm diameter reel. The reels are clear in color and is made of polystyrene plastic (anti-static coated).

Dimensions are In millimeter										
Pkg 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

#### 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	Ø178.00	54.40	13.00	R78.00	R25.60	R6.50	9.50	12.30

REEL	Reel Size	Box	Box Size(mm)	Carton	Carton Size(mm)	G.W.(kg)
3000 pcs	7 inch	45,000 pcs	203×203×195	180,000 pcs	438×438×220	

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13th Floor, C Block, Tengfei Building, Yan Chuang Yuan, Nanjing Jiangbei New Area, China

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