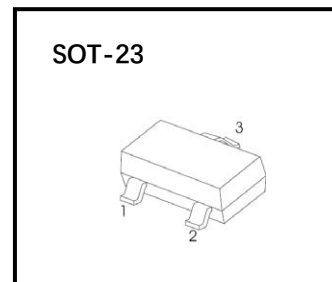




AD-BAT54/A/C/S Plastic-Encapsulated Diode

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	$^\circ\text{C}$

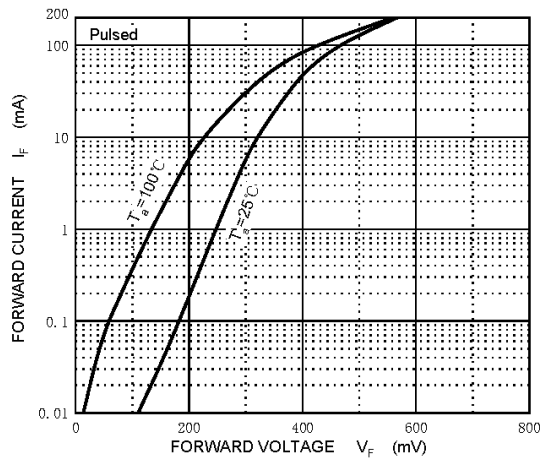
ELECTRICAL CHARACTERISTICS ($T_j = 25^\circ\text{C}$ unless otherwise specified)

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	μA
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

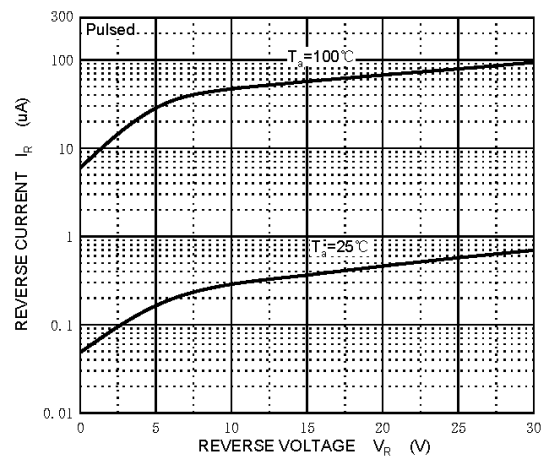
1) Measured with the device mounted on 1 inch² FR-4 board with 1oz. single-side copper, in a still air environment with $T_a = 25^\circ\text{C}$.

TYPICAL CHARACTERISTICS

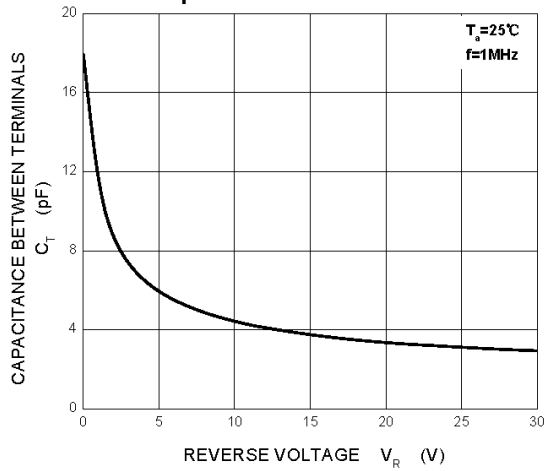
Forward Characteristics



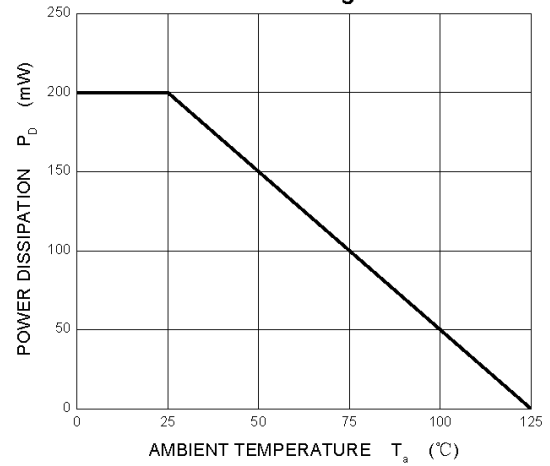
Reverse Characteristics



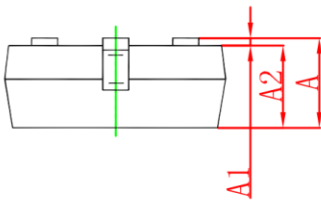
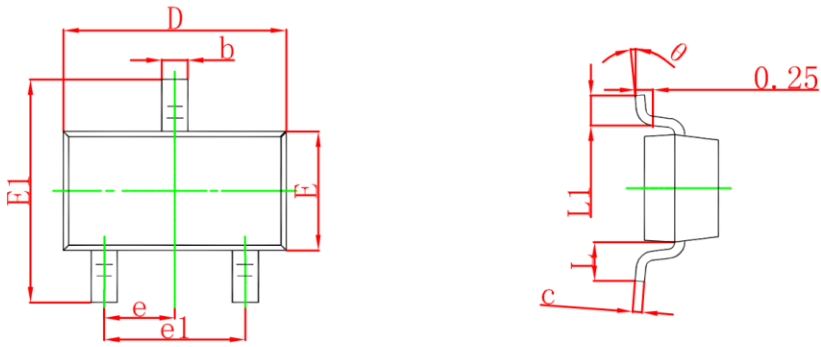
Capacitance Characteristics



Power Derating Curve

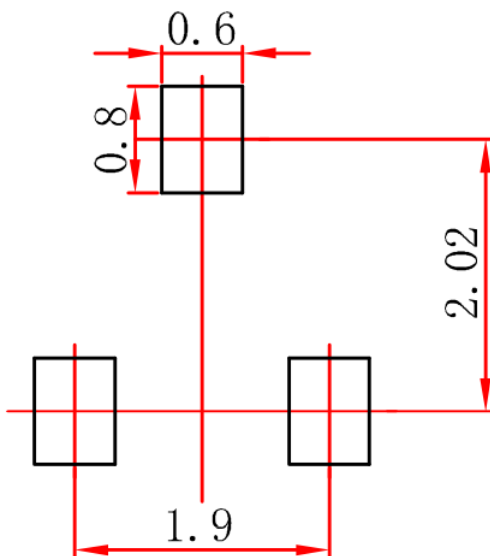


SOT-23 PACKAGE OUTLINE DIMENSIONS



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
θ	0°	8°	0°	8°

SOT-23 SUGGESTED PAD LAYOUT

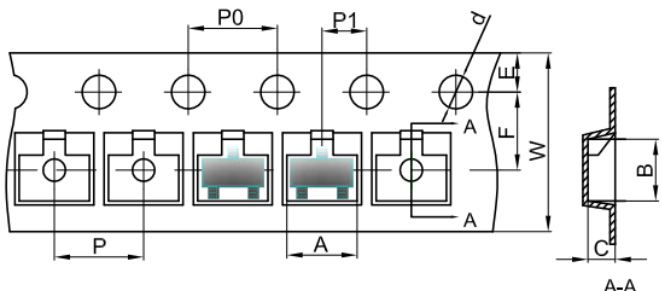


Note:

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

SOT-23 TAPE AND REEL

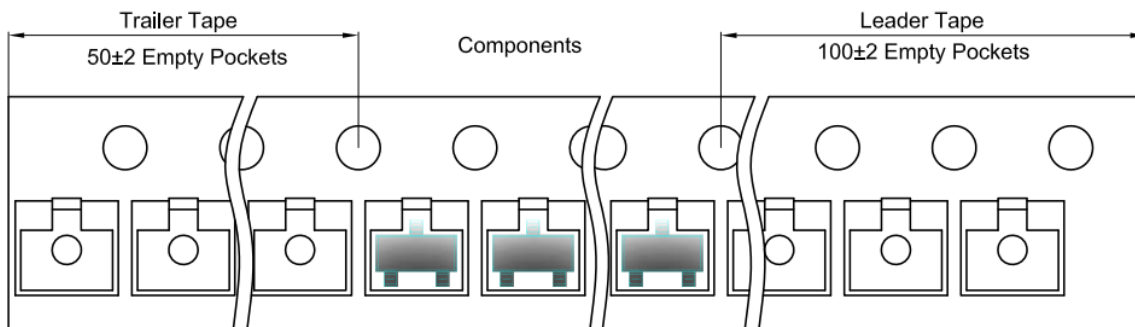
SOT-23 Embossed Carrier Tape



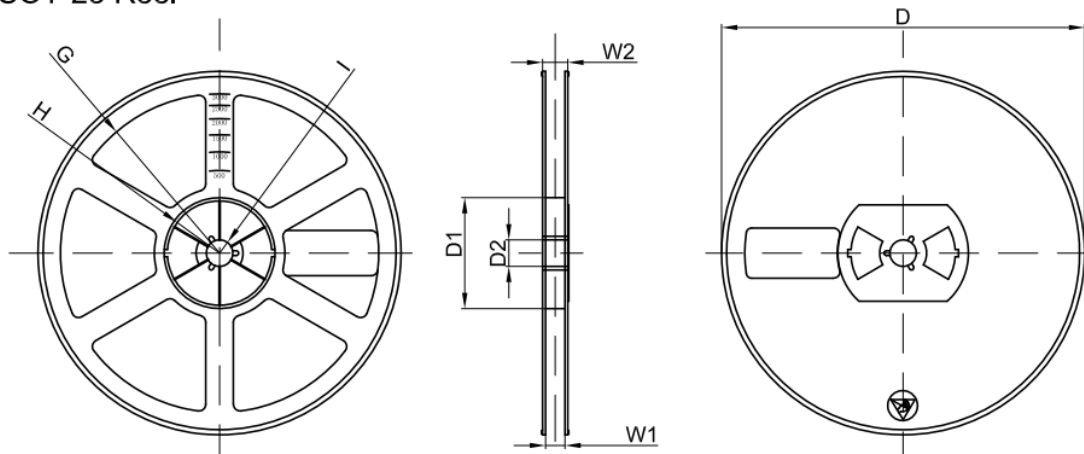
Packaging Description:
 SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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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