



FEATURES

- Fast switching speed.
- For general purpose switching applications.
- High conductance.



MECHANICAL DATA

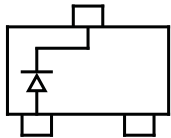
Case: SOT-23, Plastic

Terminals: Solderable per MIL-STD-750, method 2026

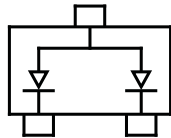
Approx. Weight: 0.008gram

Marking:

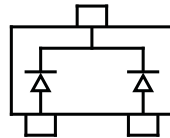
BAT54:KL1



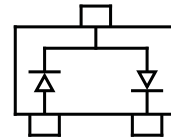
BAT54A:KL2



BAT54C:KL3



BAT54S:KL4



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

| Symbol | Parameter | Vaule | Unit |
|------------------------|---|----------|------|
| V _R | Reverse Voltage | 30 | V |
| I _F | Forward Current | 0.2 | A |
| I _{FM(SURGE)} | Peak Forward Surge Current | 0.6 | A |
| P _D | Total Device Dissipation | 0.2 | W |
| R _{θJA} | Thermal Resistance Form Junction to Ambient | 500 | °C/W |
| T _J | Junction Temperature | 125 | °C |
| T _{STG} | Storage Temperature | -55~+150 | °C |

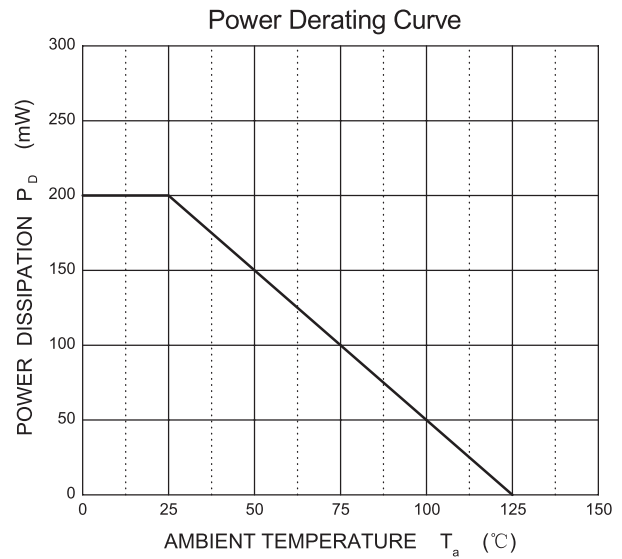
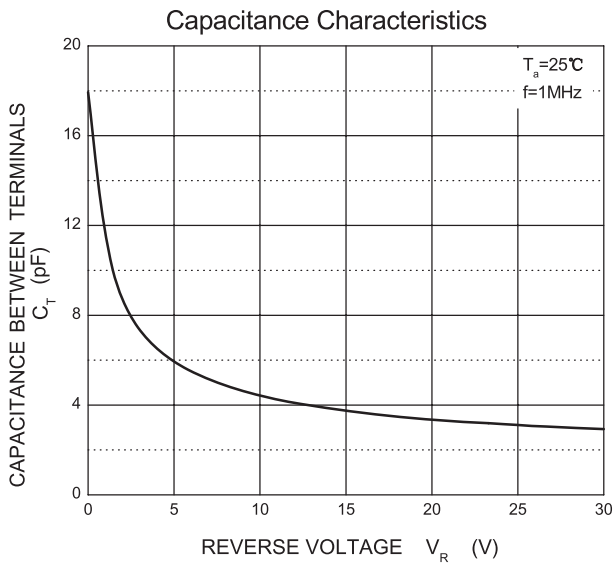
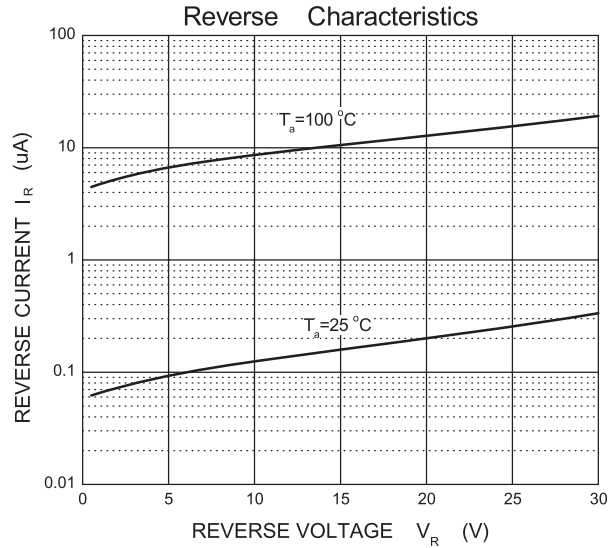
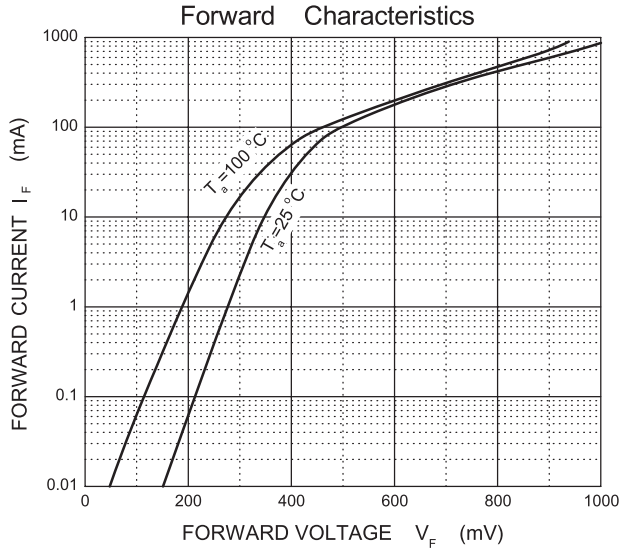
BAT54/A/C/S

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

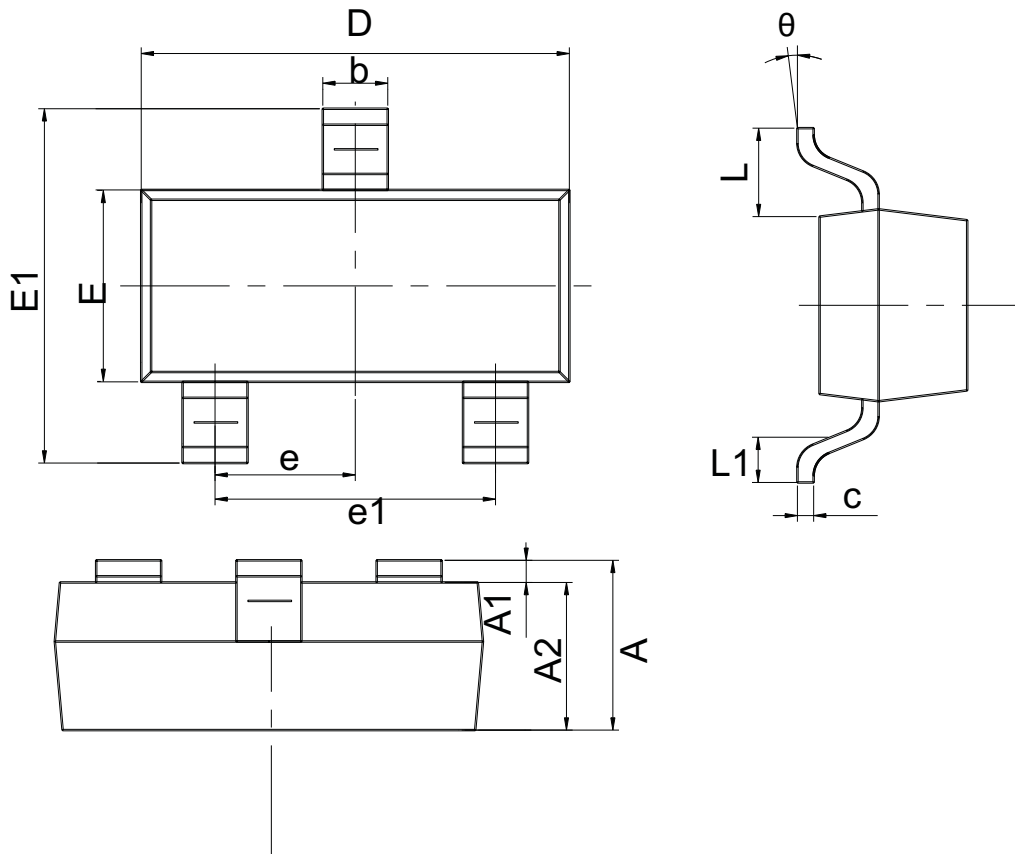
| Parameter | Symbol | Test Condition | Min. | Typ. | Max. | Units |
|---------------------------|------------|--|------|------|-------|---------------|
| Reverse breakdown voltage | $V_{(BR)}$ | $I_R=100\mu\text{A}$ | 30 | | | V |
| Forward voltage | V_{F1} | $I_F=0.1\text{mA}$ | | | 0.24 | |
| | V_{F2} | $I_F=1\text{mA}$ | | | 0.320 | V |
| | V_{F3} | $I_F=10\text{mA}$ | | | 0.4 | V |
| | V_{F4} | $I_F=30\text{mA}$ | | | 0.5 | V |
| | V_{F5} | $I_F=100\text{mA}$ | | | 1 | V |
| Reverse current | I_R | $V_R=25\text{V}$ | | | 2 | μA |
| Diode capacitance | C_D | $V_R=1\text{V}, f=1\text{MHz}$ | | | 10.0 | pF |
| Reverse recovery time | t_{rr} | $I_F=I_R=10\text{mA},$ $I_{RR}=0.1 \times I_R, R_L=100\Omega$ | | | 5 | nS |

BAT54/A/C/S

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



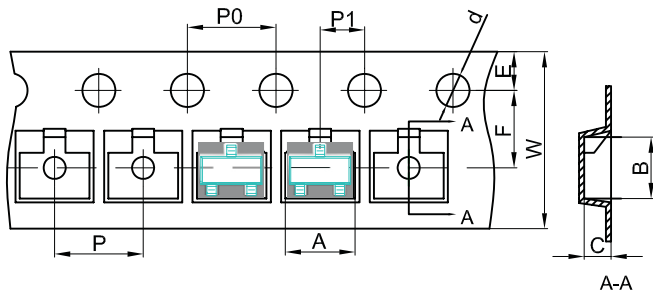
SOT-23 OUTLINE DIMENSIONS



| 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 | 0.950REF. | | 0.037REF. | |
| e1 | 1.800 | 2.000 | 0.071 | 0.079 |
| L | 0.550REF | | 0.022REF | |
| L1 | 0.300 | 0.500 | 0.012 | 0.020 |
| θ | 0° | 8° | 0° | 8° |

SOT-23 Tape and reel

SOT-23 Embossed Carrier Tape

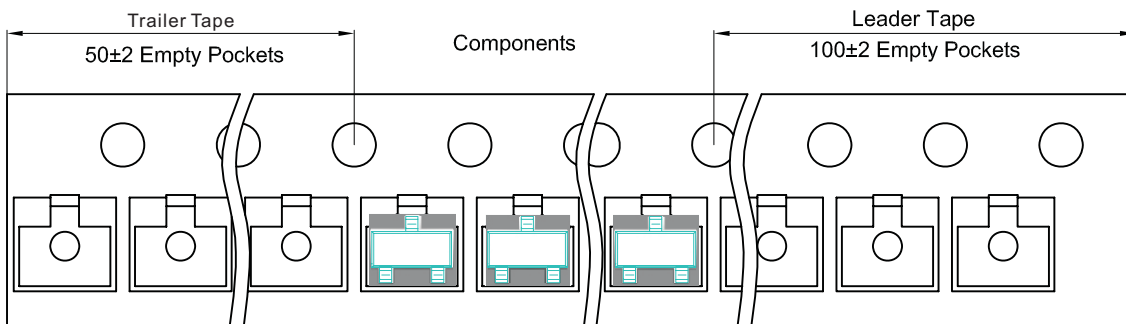


Packaging Description:

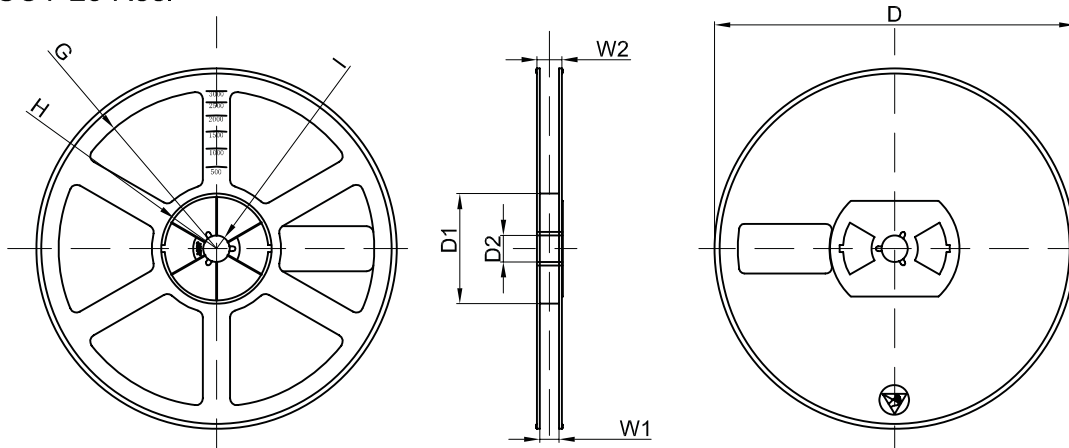
SOT-23 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts in standard option are shipped with 3000 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 |
| (Tolerance) | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +/-0.1 | +0.3/-0.1 |

SOT-23 Tape Leader and Trailer



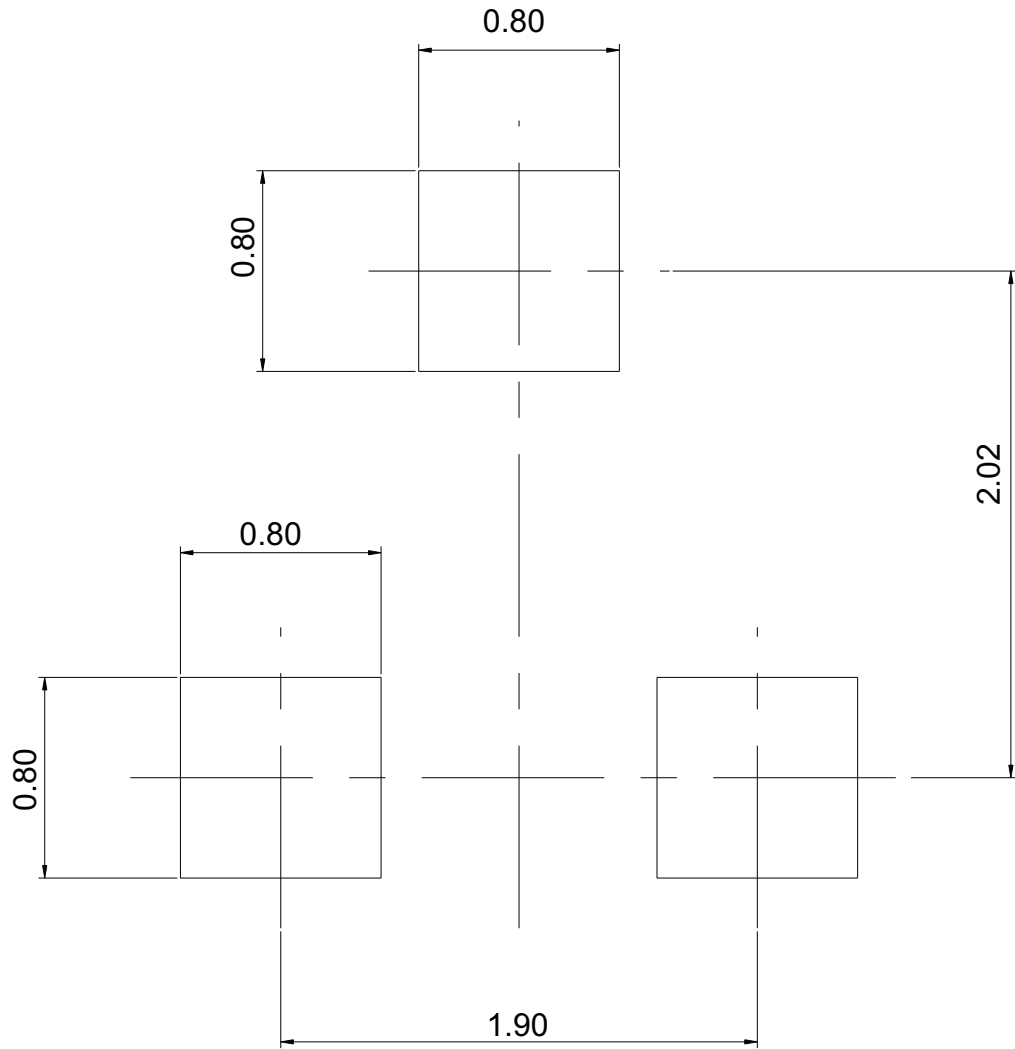
SOT-23 Reel



| Dimensions are in millimeter | | | | | | | | |
|------------------------------|---------|-------|-------|--------|--------|-------|------|-------|
| Reel Option | D | D1 | D2 | G | H | I | W1 | W2 |
| 7" Dia | Ø178.00 | 54.40 | 13.00 | R78.00 | R25.60 | R6.50 | 9.50 | 12.30 |
| Tolerance | +/-2 | +/-1 | +/-1 | +/-1 | +/-1 | +/-1 | +/-1 | +/-1 |

| REEL | Reel Size | Box | Box Size(mm) | Carton | Carton Size(mm) | G.W.(kg) |
|----------|-----------|------------|--------------|-------------|-----------------|----------|
| 3000 pcs | 7 inch | 45,000 pcs | 210x208x203 | 180,000 pcs | 440x440x230 | 8.45 |

SOT-23 Pad size



| | | |
|------------------------|--------------------|------|
| Center distance | | 1.90 |
| Lead size | Lead width | 0.40 |
| | Lead length | 0.55 |
| Pad size | Pad width | 0.80 |
| | Pad length | 0.80 |

Unit: mm