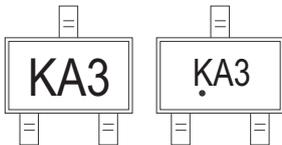


SWITCHING DIODE

FEATURES

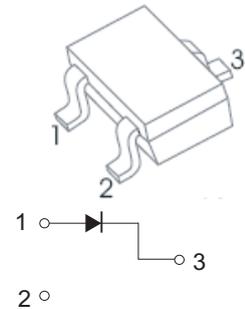
- Fast switching speed
- Surface mount package ideally suited for automatic insertion
- For general purpose switching applications
- High conductance

MARKING: KA3



Solid dot = Green molding compound device,
if none, the normal device.

SOT-323



Maximum Ratings @Ta=25°C

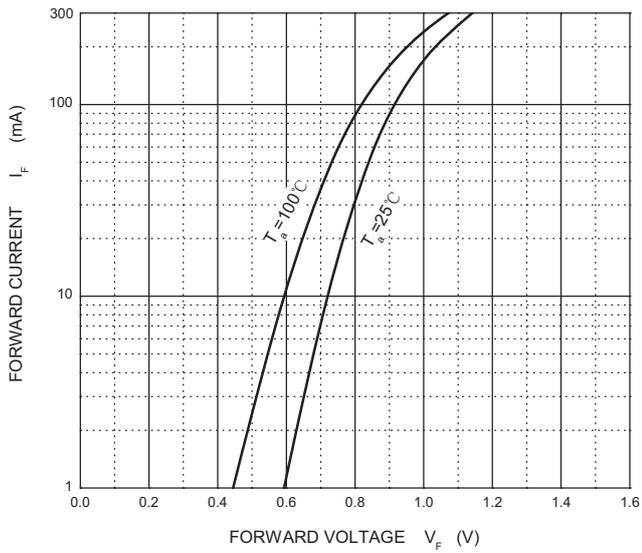
| Parameter | Symbol | Limit | Unit |
|--|-----------------|------------|------|
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 100 | V |
| Peak Repetitive Peak Reverse Voltage | V_{RRM} | | |
| Working Peak Reverse Voltage | V_{RWM} | 75 | V |
| DC Blocking Voltage | V_R | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 53 | V |
| Forward Continuous Current | I_{FM} | 500 | mA |
| Average Rectified Output Current | I_O | 250 | mA |
| Non-Repetitive Peak Forward Surge Current @t=8.3ms | I_{FSM} | 2.0 | A |
| Power Dissipation | P_d | 200 | mW |
| Thermal Resistance from Junction to Ambient | $R_{\theta JA}$ | 625 | °C/W |
| Storage Temperature | T_{STG} | -55 ~ +150 | °C |

Electrical Ratings @Ta=25°C

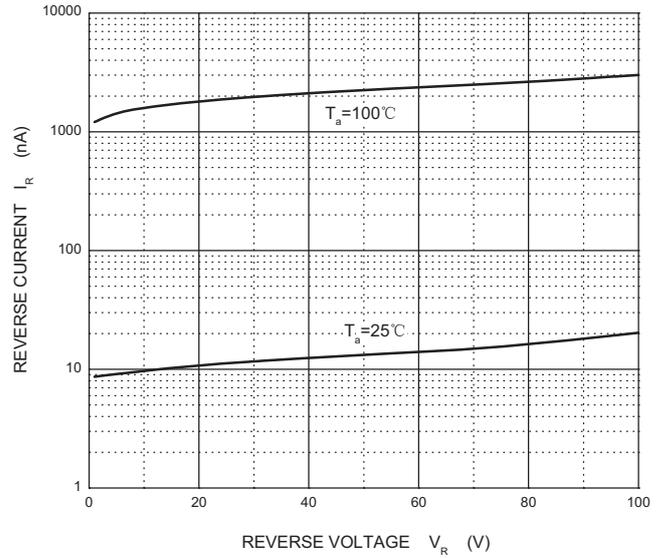
| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|-------------------------------|----------|------|-----|-------|------|--|
| Forward voltage | V_{F1} | 0.62 | | 0.72 | V | $I_F=5mA$ |
| | V_{F2} | | | 0.855 | V | $I_F=10mA$ |
| | V_{F3} | | | 1.0 | V | $I_F=100mA$ |
| | V_{F4} | | | 1.25 | V | $I_F=150mA$ |
| Reverse current | I_{R1} | | | 2.5 | μA | $V_R=75V$ |
| | I_{R2} | | | 25 | nA | $V_R=20V$ |
| Capacitance between terminals | C_T | | | 4 | pF | $V_R=0V, f=1MHz$ |
| Reverse recovery time | t_{rr} | | | 4 | ns | $I_F=I_R=10mA$ $I_{rr}=0.1I_R, R_L=100\Omega$ |

RATING AND CHARACTERISTICS CURVES (MMBD4448W)

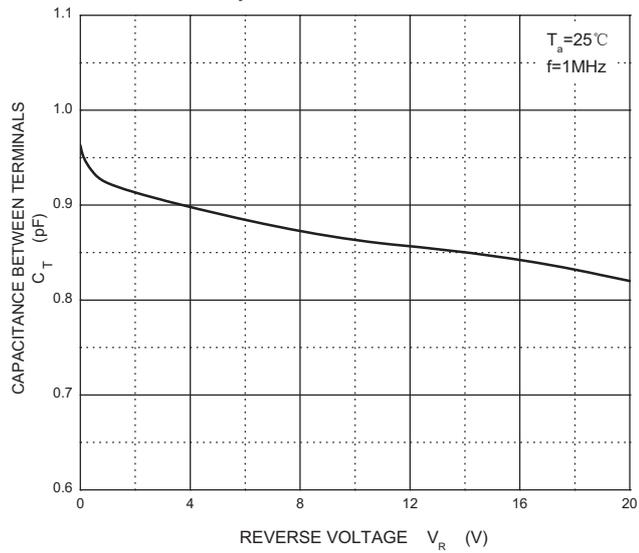
Forward Characteristics



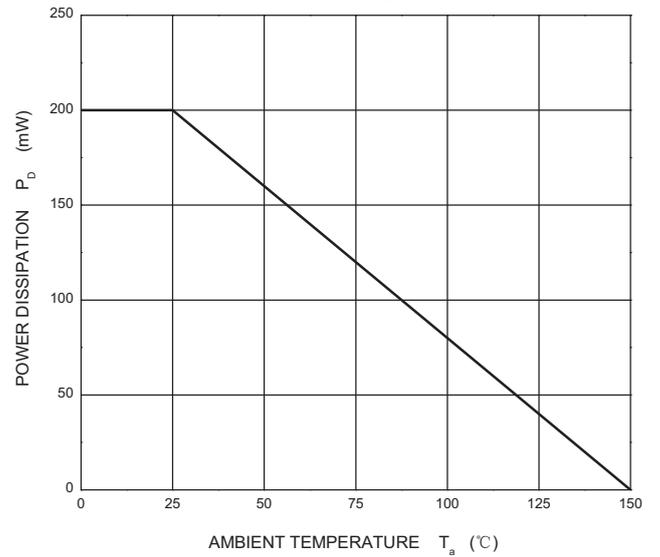
Reverse Characteristics



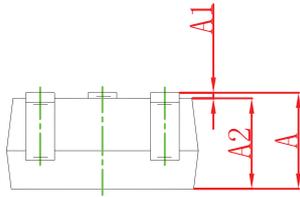
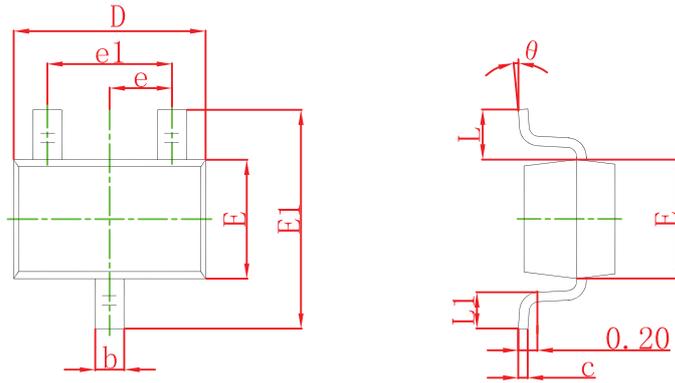
Capacitance Characteristics



Power Derating Curve

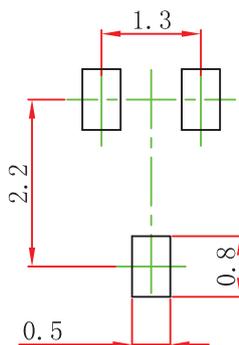


SOT-323 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min | Max | Min | Max |
| A | 0.900 | 1.100 | 0.035 | 0.043 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.900 | 1.000 | 0.035 | 0.039 |
| b | 0.200 | 0.400 | 0.008 | 0.016 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 2.000 | 2.200 | 0.079 | 0.087 |
| E | 1.150 | 1.350 | 0.045 | 0.053 |
| E1 | 2.150 | 2.450 | 0.085 | 0.096 |
| e | 0.650 TYP | | 0.026 TYP | |
| e1 | 1.200 | 1.400 | 0.047 | 0.055 |
| L | 0.525 REF | | 0.021 REF | |
| L1 | 0.260 | 0.460 | 0.010 | 0.018 |
| theta | 0° | 8° | 0° | 8° |

SOT-323 Suggested Pad Layout

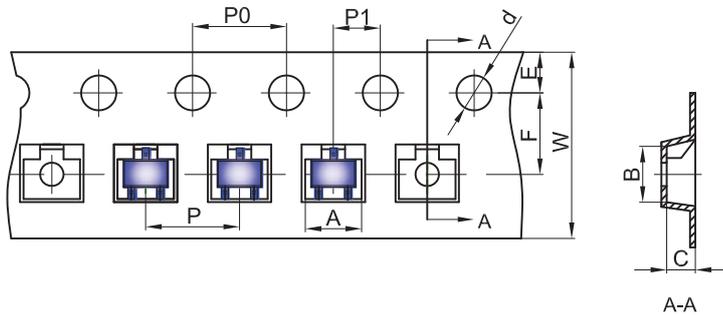


Note:

1. Controlling dimension: in millimeters.
2. General tolerance: ± 0.05 mm.
3. The pad layout is for reference purposes only.

SOT-323 Tape and Reel

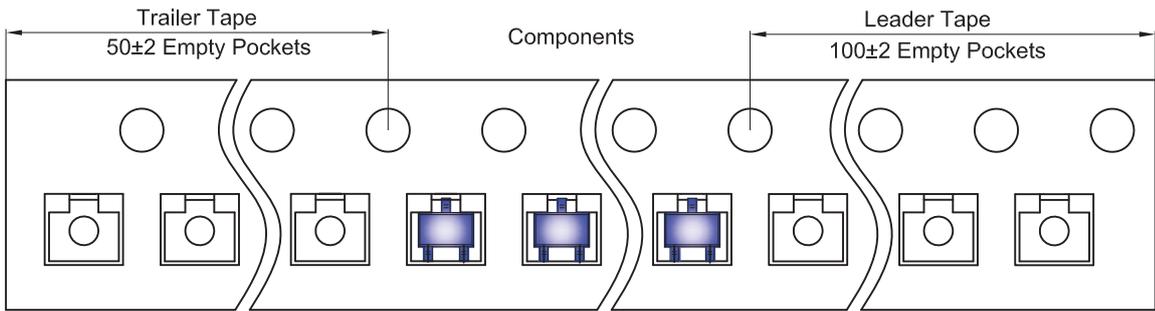
SOT-323 Embossed Carrier Tape



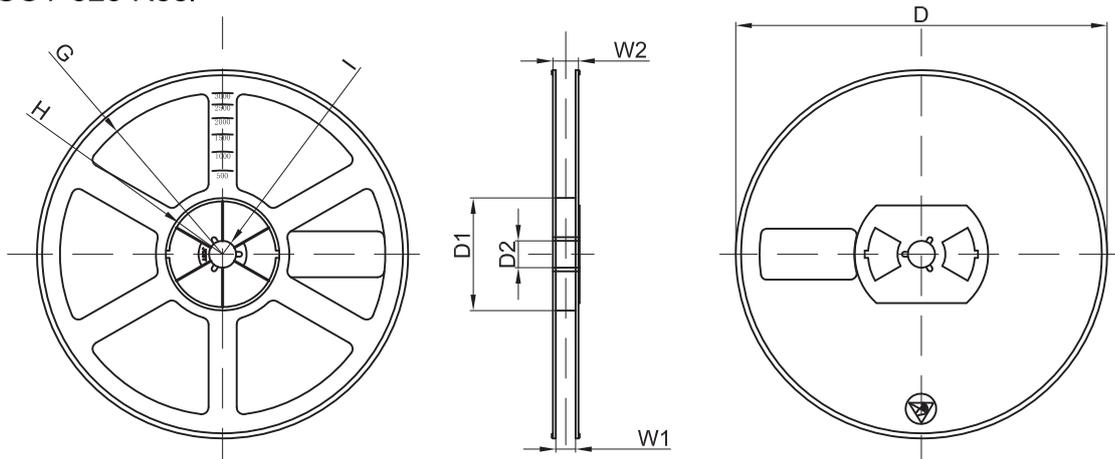
Packaging Description:
 SOT-323 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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-323 | 2.25 | 2.55 | 1.19 | Ø1.55 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-323 Tape Leader and Trailer



SOT-323 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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