



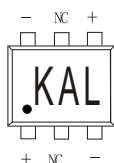
SOT-563 Plastic-Encapsulate Diodes

MMBD4448V SWITCHING DIODE

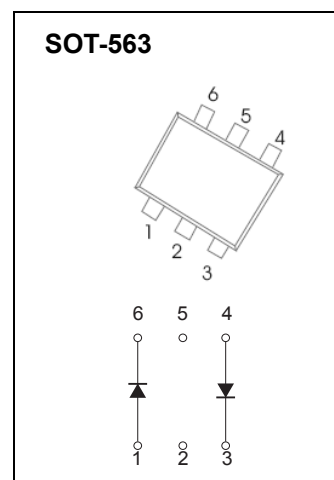
FEATURES

- Fast switching speed
- High conductance

MARKING: KAL



Solid dot = Pin1 indicate.



Maximum Ratings and Electrical Characteristics, Single Diode @Ta=25°C

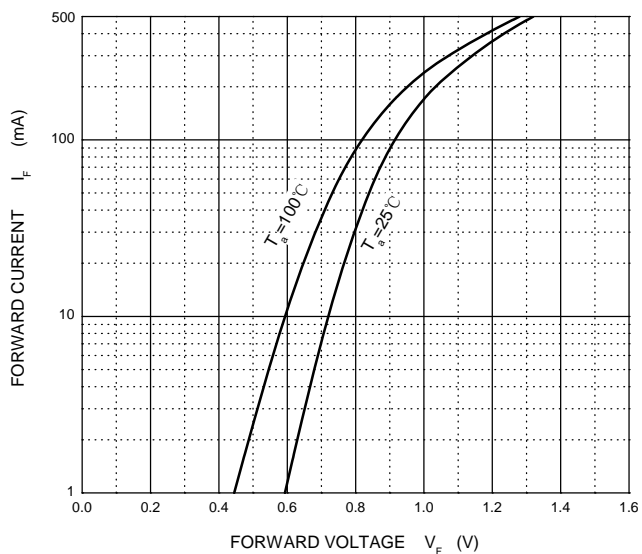
| Parameter | Symbol | Limit | Unit |
|--|-----------------|----------|------|
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 100 | V |
| Peak Repetitive Peak Reverse Voltage | V_{RRM} | 80 | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | V_R | | |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 57 | 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 | 150 | mW |
| Thermal Resistance Junction to Ambient | $R_{\theta JA}$ | 833 | °C/W |
| Junction Temperature | T_j | 150 | °C |
| Storage Temperature | T_{STG} | -55~+150 | °C |

Electrical Ratings @Ta=25°C

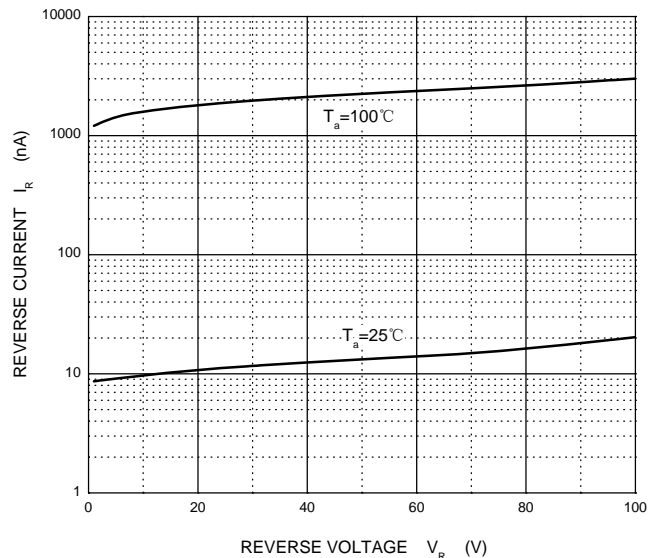
| Parameter | Symbol | Min | Typ | Max | Unit | Conditions |
|-------------------------------|------------|------|-----|-------|---------|--|
| Reverse breakdown voltage | $V_{(BR)}$ | 80 | | | V | $I_R=2.5\mu A$ |
| Forward voltage | V_{F1} | 0.62 | | 0.72 | V | $I_F=5mA$ |
| | V_{F2} | | | 0.855 | V | $I_F=10mA$ |
| | V_{F3} | | | 1.0 | V | $I_F=100mA$ |
| | V_{F4} | | | 1.25 | V | $I_F=150mA$ |
| Reverse current | I_{R1} | | | 0.1 | μA | $V_R=70V$ |
| | I_{R2} | | | 25 | nA | $V_R=20V$ |
| Capacitance between terminals | C_T | | | 3.5 | pF | $V_R=6V, f=1MHz$ |
| Reverse recovery time | t_{rr} | | | 4 | ns | $I_F=I_R=10mA$ $I_{rr}=0.1I_R, R_L=100\Omega$ |

Typical Characteristics

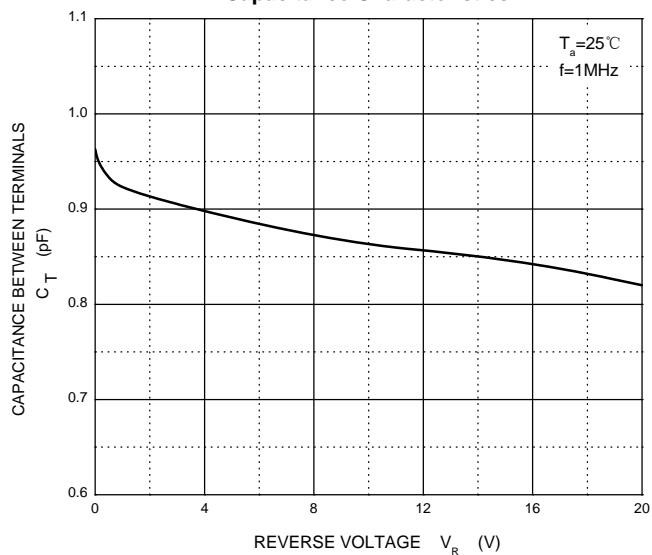
Forward Characteristics



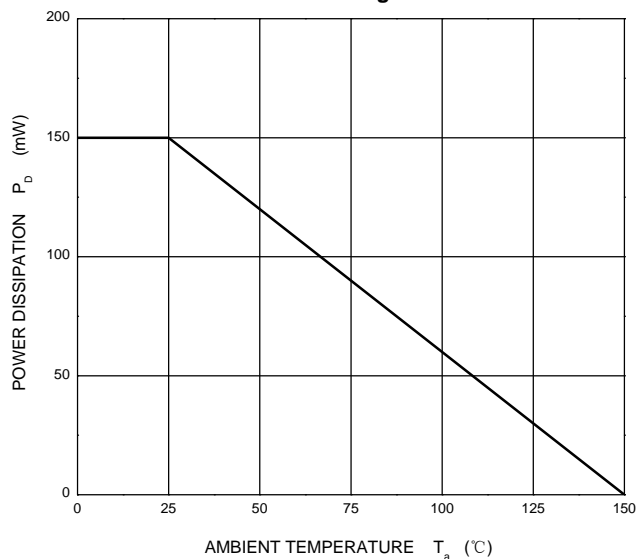
Reverse Characteristics



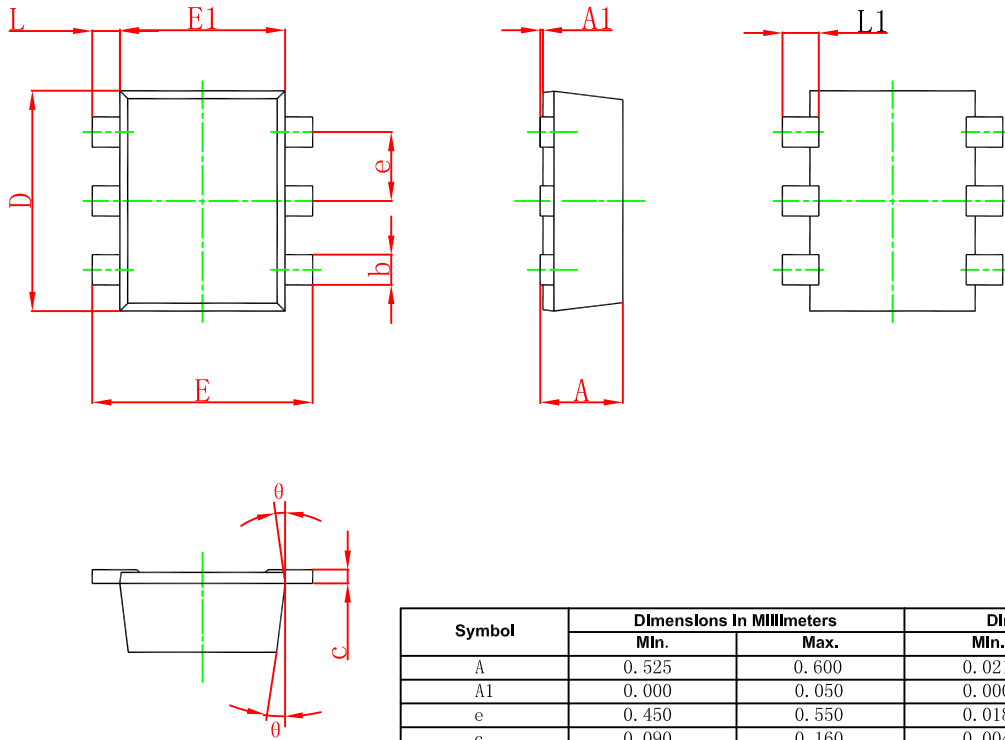
Capacitance Characteristics



Power Derating Curve

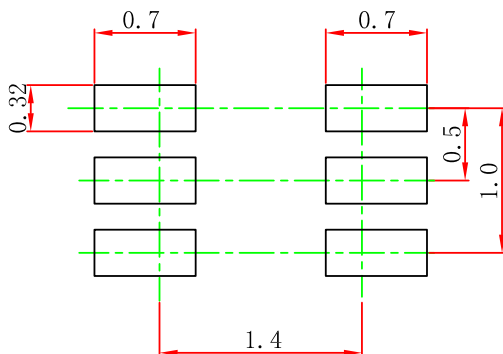


SOT-563 Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|----------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.525 | 0.600 | 0.021 | 0.024 |
| A1 | 0.000 | 0.050 | 0.000 | 0.002 |
| e | 0.450 | 0.550 | 0.018 | 0.022 |
| c | 0.090 | 0.160 | 0.004 | 0.006 |
| D | 1.500 | 1.700 | 0.059 | 0.067 |
| b | 0.170 | 0.270 | 0.007 | 0.011 |
| E1 | 1.100 | 1.300 | 0.043 | 0.051 |
| E | 1.500 | 1.700 | 0.059 | 0.067 |
| L | 0.100 | 0.300 | 0.004 | 0.012 |
| L1 | 0.200 | 0.400 | 0.008 | 0.016 |
| θ | 7 ⁰ REF. | | 7 ⁰ REF. | |

SOT-563 Suggested Pad Layout



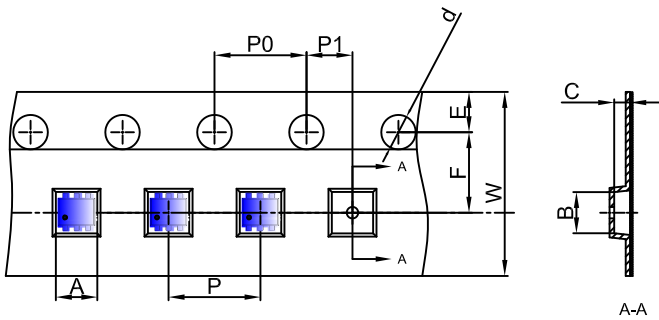
- Note:
1. Controlling dimension: in millimeters.
 2. General tolerance: $\pm 0.05\text{mm}$.
 3. The pad layout is for reference purposes only.

NOTICE

JCET reserve the right to make modifications, enhancements, improvements, corrections or other changes without further notice to any product herein. JCET does not assume any liability arising out of the application or use of any product described herein.

SOT-563 Tape and Reel

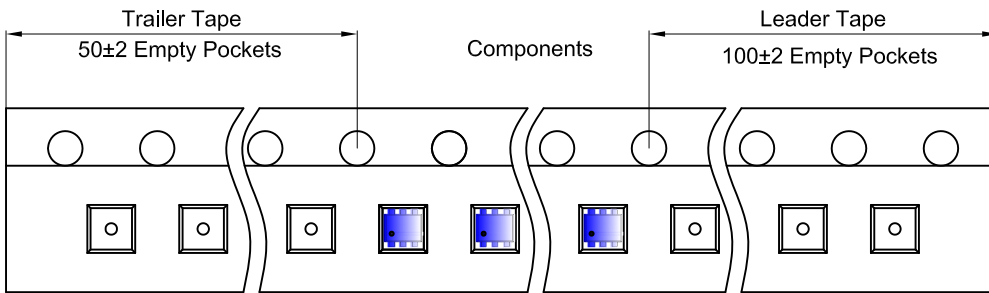
SOT-563 Embossed Carrier Tape



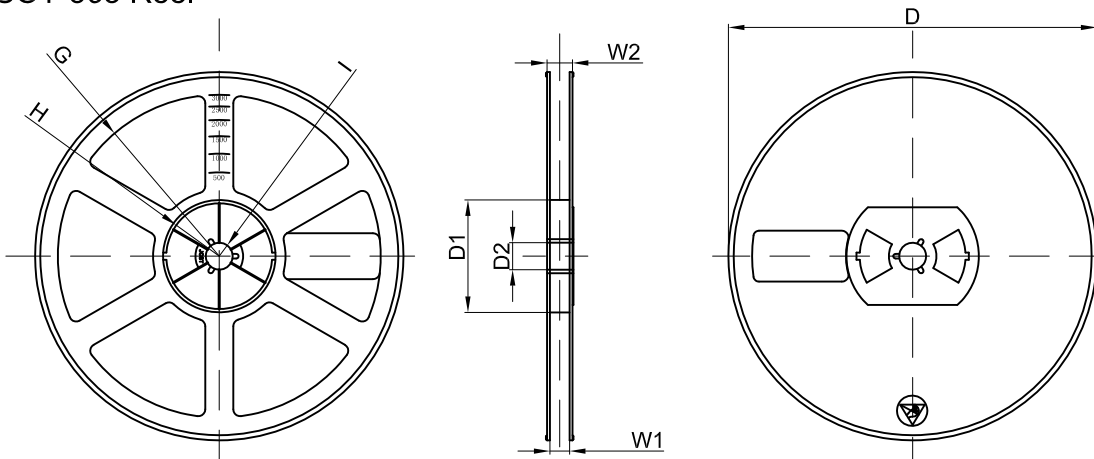
Packaging Description:
 SOT-563 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. 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-563 | 1.78 | 1.78 | 0.69 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

SOT-563 Tape Leader and Trailer



SOT-563 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 | |