

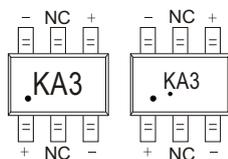
## SOT-363 Plastic-Encapsulate Diodes

### MMBD4448DW Switching Diode

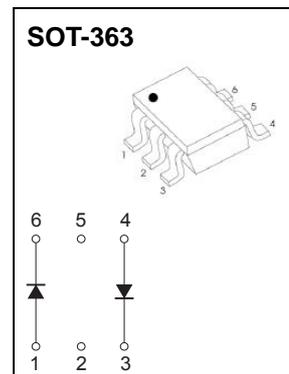
#### FEATURES

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance Power Dissipation

#### MARKING:KA3



Solid dot = Pin1 indicate.  
Solid dot = Green molding compound device,  
if none, the normal device.



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

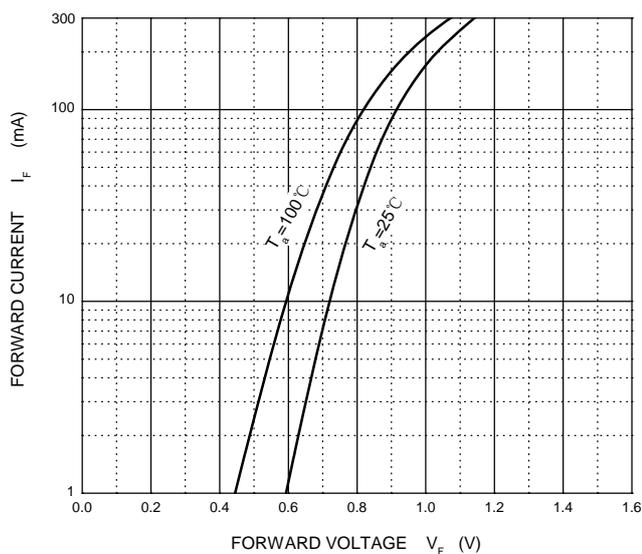
| Parameter  | Symbol          | Limit      | Unit |
|--|-----------------|------------|------|
| Non-Repetitive Peak Reverse Voltage                | $V_{RM}$        | 100        | V    |
| Peak Repetitive Peak Reverse Voltage               | $V_{RRM}$       | 75         | V    |
| Working Peak Reverse Voltage                       | $V_{RWM}$       |            |      |
| 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

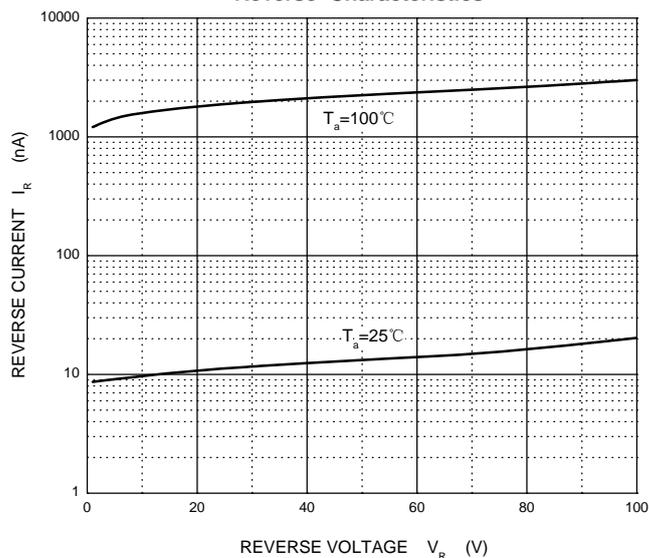
| Parameter                     | Symbol      | Min  | Typ | Max   | Unit    | Conditions                                       |
|-------------------------------|-------------|------|-----|-------|---------|--|
| Reverse Breakdown Voltage     | $V_{(BR)R}$ | 75   |     |       | V       | $I_R=10\mu A$                                    |
| 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       | $I_F=50mA$                                       |
|                               | $V_{F4}$    |      |     | 1.25  | V       | $I_F=150mA$                                      |
| Reverse Current               | $I_{R1}$    |      |     | 2.5   | $\mu A$ | $V_R=75V$  |
|                               | $I_{R2}$    |      |     | 25    | nA      | $V_R=20V$  |
| Capacitance Between Terminals | $C_T$       |      |     | 4     | pF      | $V_R=0V, f=1MHz$                                 |
| Reverse Recovery Time         | $t_{rr}$    |      |     | 4     | ns      | $I_F=I_R=10mA$<br>$I_{rr}=0.1I_R, R_L=100\Omega$ |

# Typical Characteristics

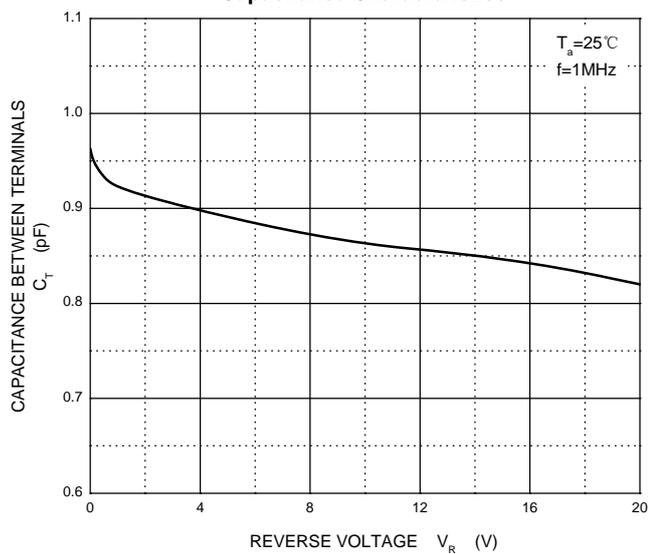
**Forward Characteristics**



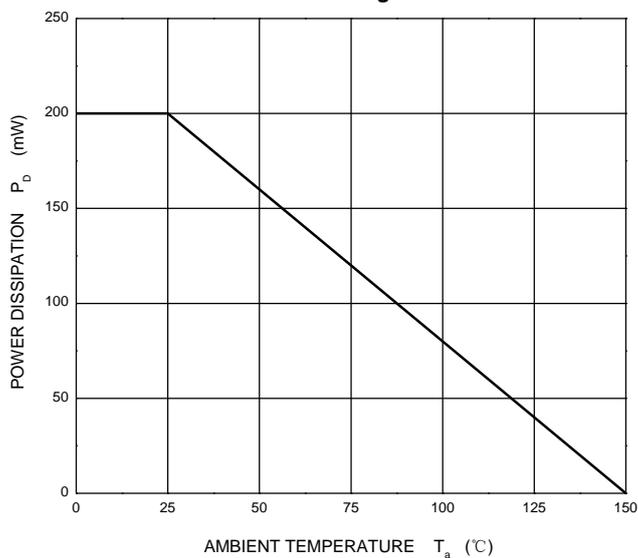
**Reverse Characteristics**



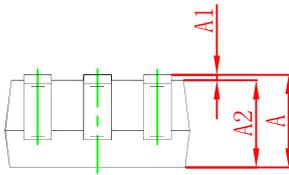
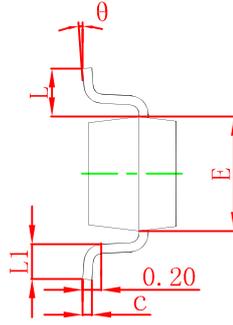
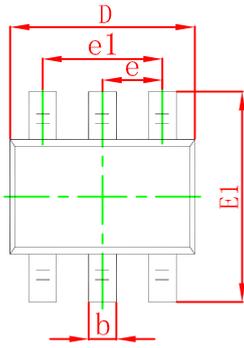
**Capacitance Characteristics**



**Power Derating Curve**

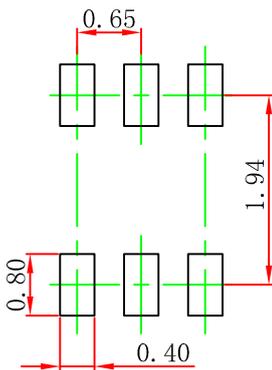


## SOT-363 Package Outline Dimensions



| 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        | 0.150                     | 0.350 | 0.006                | 0.014 |
| c        | 0.100                     | 0.150 | 0.004                | 0.006 |
| D        | 2.000                     | 2.200 | 0.079                | 0.087 |
| E        | 1.150                     | 1.350 | 0.045                | 0.053 |
| E1       | 2.150                     | 2.400 | 0.085                | 0.094 |
| 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-363 Suggested Pad Layout



Note:

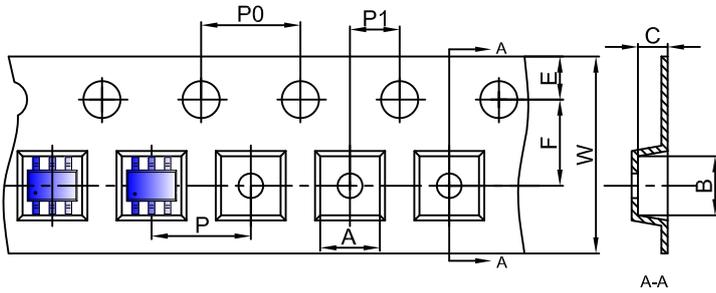
1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$ .
3. The pad layout is for reference purposes only.

### 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-363 Tape and Reel

## SOT-363 Embossed Carrier Tape

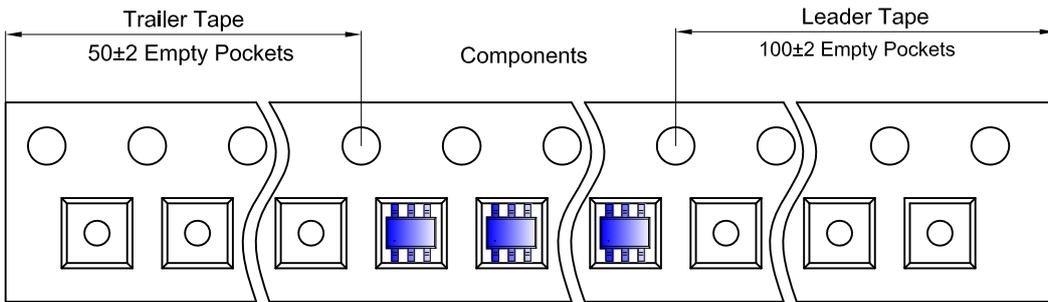


### Packaging Description:

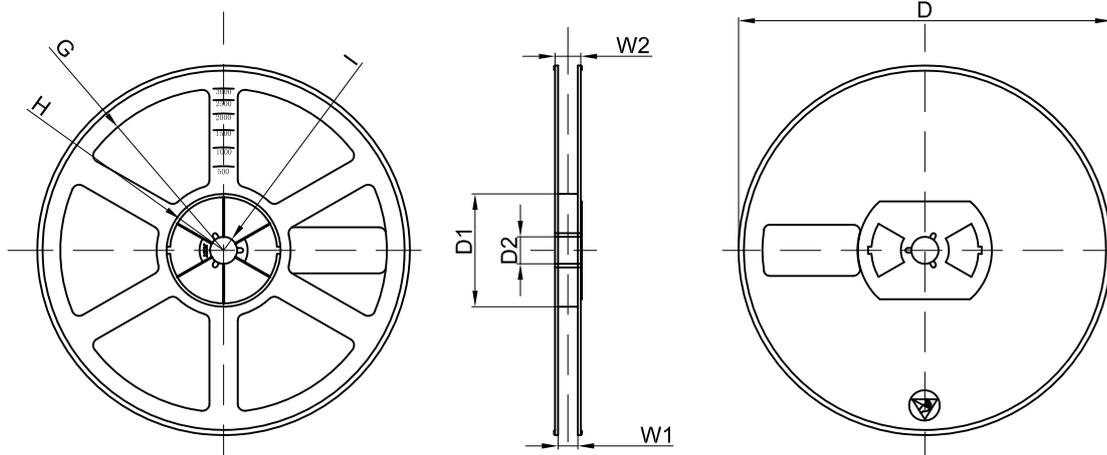
SOT-363 parts are shipped in tape. The carrier tape is made from a dissipative (carbon filled) polycarbonate resin. The cover tape is a multilayer film (Heat Activated Adhesive in nature) primarily composed of polyester film, adhesive layer, sealant, and anti-static sprayed agent. These reeled parts 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-363                      | 2.25 | 2.55 | 1.20 | Ø1.50 | 1.75 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 |

## SOT-363 Tape Leader and Trailer



## SOT-363 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     |          |