

Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- High Conductance, Power Dissipation
- For General Purpose Switching Applications
- Halogen Free. "Green" Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

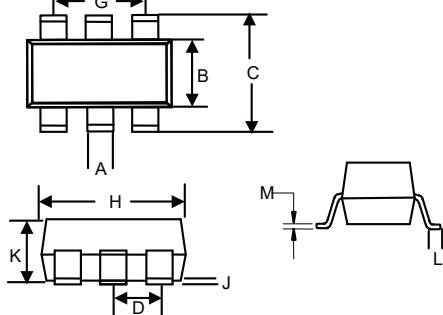
200mW Switching Diodes

Maximum Ratings

- Operating Junction Temperature Range: 150°C
- Storage Temperature Range: -65°C to +150°C
- Thermal Resistance: 625°C/W Junction to Ambient

| MCC Part Number | Device Marking | Repetitive Peak Reverse Voltage V_{RRM} | RMS Reverse Voltage $V_{R(RMS)}$ | DC Blocking Voltage V_R |
|---|----------------|---|----------------------------------|---------------------------|
| MMBD4448HAQW | KA5 | 80V | 57V | 80V |
| MMBD4448HADW | KA6 | 80V | 57V | 80V |
| MMBD4448HCDW | KA7 | 80V | 57V | 80V |
| MMBD4448HSDW | KAB | 80V | 57V | 80V |
| MMBD4448HCQW | KA4 | 80V | 57V | 80V |
| MMBD4448HTW | KAA | 80V | 57V | 80V |
| Non-Repetitive Peak Reverse Voltage | V_{RM} | 100V | | |
| Working Peak Reverse Voltage | V_{RWM} | 80V | | |
| Forward Continuous Current | I_{FM} | 500mA | | |
| Average Rectified Output Current | I_o | 250mA | | |
| Non-Repetitive Peak Forward Surge Current | I_{FSM} | 4.0A 1.5A | @ t=1.0us @ t=1.0s | |
| Power Dissipation | P_D | 200mW | | |

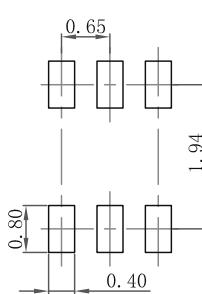
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.



SOT-363

| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|---------|------|
| | MIN | MAX | MIN | MAX | |
| A | 0.006 | 0.014 | 0.15 | 0.35 | |
| B | 0.045 | 0.053 | 1.15 | 1.35 | |
| C | 0.079 | 0.096 | 2.00 | 2.45 | |
| D | 0.026 | | 0.65 | Nominal | |
| G | 0.047 | 0.055 | 1.20 | 1.40 | |
| H | 0.071 | 0.087 | 1.80 | 2.20 | |
| J | ----- | 0.004 | ----- | 0.10 | |
| K | 0.031 | 0.043 | 0.80 | 1.10 | |
| L | 0.010 | 0.018 | 0.26 | 0.46 | |
| M | 0.003 | 0.006 | 0.08 | 0.15 | |

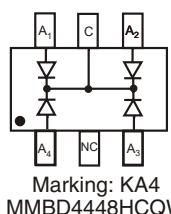
Suggested Solder Pad Layout



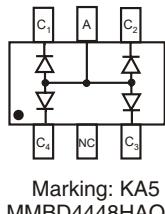
Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|-------------------------------|----------|---|--|
| Minimum Breakdown Voltage | V_{BR} | 80V | $I_R=100\mu A$ |
| Maximum Forward Voltage | V_F | 0.720V 0.855V 1.000V 1.250V | $I_F=5.0mA$ $I_F=10.0mA$ $I_F=50.0mA$ $I_F=150.0mA$ |
| Minimum Forward Voltage | V_F | 0.620V | $I_F=5.0mA$ |
| Maximum Peak Reverse voltage | I_R | 25nA 100nA 30 μA 50 μA | $VR=20V, T_J=25^\circ C$ $VR=70V, T_J=25^\circ C$ $VR=25V, T_J=150^\circ C$ $VR=75V, T_J=150^\circ C$ |
| Maximum Total Capacitance | C_T | 3.5pF | $V_R=6.0V, f=1.0MHz$ |
| Maximum Reverse Recovery Time | t_{rr} | 4.0ns | $I_F=5mA, V_R=6V$ |

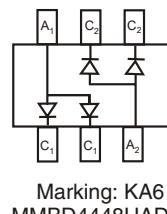
Internal Structure



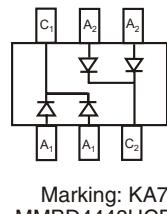
Marking: KA4
MMBD4448HCQW



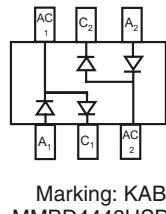
Marking: KA5
MMBD4448HAQW



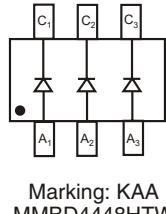
Marking: KA6
MMBD4448HADW



Marking: KA7
MMBD4448HCDW



Marking: KAB
MMBD4448HSDW



Marking: KAA
MMBD4448HTW

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

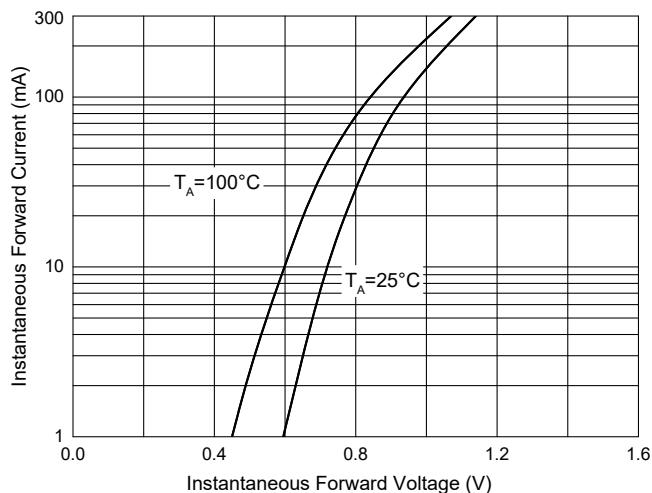


Fig. 2 - Typical Reverse Leakage Characteristics

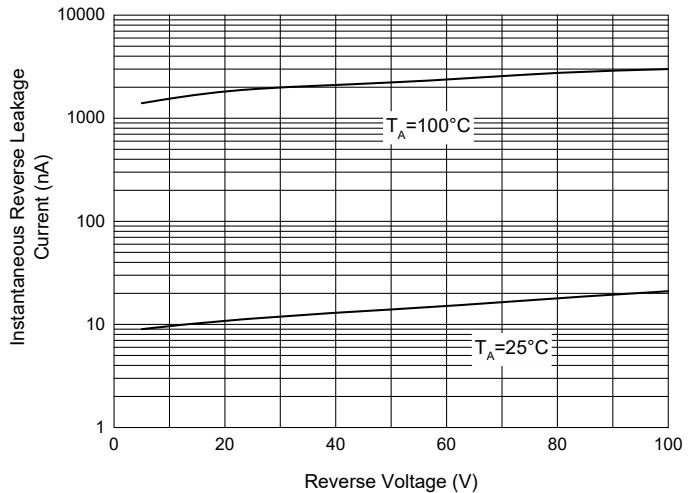
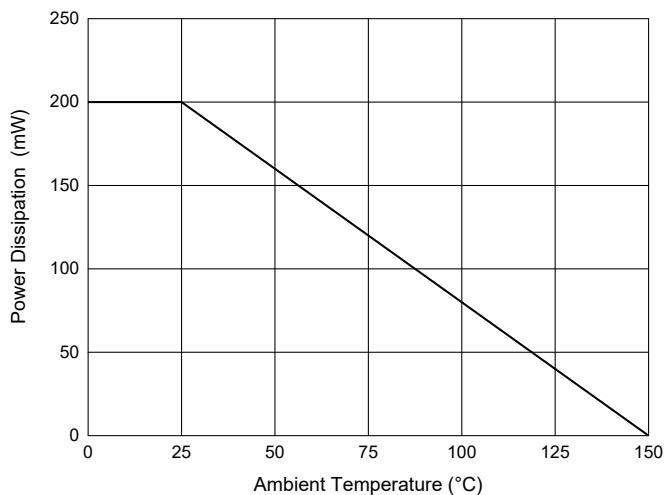


Fig. 3 - Power Derating Curve



Ordering Information

| Device | Packing |
|------------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |
| Part Number-TPQ2 | Tape&Reel: 3Kpcs/Reel |

For packaging details, go to our website at <https://www.mccsemi.com/pdf/ProductPackaging/SOT-363%20Package.pdf>

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