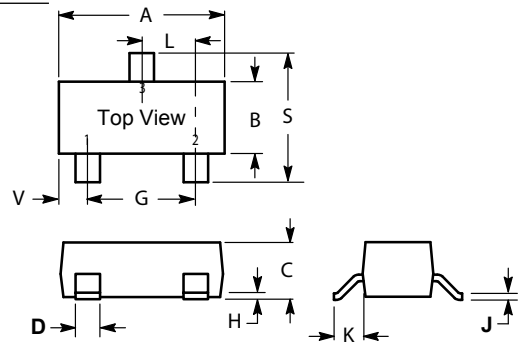
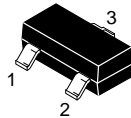
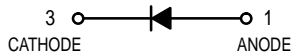


RoHS Compliant Product

A suffix of "-C" specifies halogen & lead-free

FEATURES

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance



MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|----------------------------|------------------------|-------|------|
| Reverse Voltage | V_R | 75 | Vdc |
| Forward Current | I_F | 300 | mAdc |
| Peak Forward Surge Current | $I_{FM}(\text{surge})$ | 500 | mAdc |

| SOT-23 | | |
|---------------------|-------|-------|
| Dim | Min | Max |
| A | 2.800 | 3.040 |
| B | 1.200 | 1.400 |
| C | 0.890 | 1.110 |
| D | 0.370 | 0.500 |
| G | 1.780 | 2.040 |
| H | 0.013 | 0.100 |
| J | 0.085 | 0.177 |
| K | 0.450 | 0.600 |
| L | 0.890 | 1.020 |
| S | 2.100 | 2.500 |
| V | 0.450 | 0.600 |
| All Dimension in mm | | |

THERMAL CHARACTERISTICS

| Characteristic | Symbol | Max | Unit |
|---|-----------------|-------------|---------------------------|
| Total Device Dissipation FR-5 Board ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 325 | mW |
| | | 1.8 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C}/\text{W}$ |
| Total Device Dissipation Alumina Substrate, ⁽²⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 300 | mW |
| | | 2.4 | mW/ $^\circ\text{C}$ |
| Thermal Resistance, Junction to Ambient | $R_{\theta JA}$ | 417 | $^\circ\text{C}/\text{W}$ |
| Junction and Storage Temperature | T_J, T_{stg} | -55 to +150 | $^\circ\text{C}$ |

DEVICE MARKING

MMBD4148 = 5D, KA2

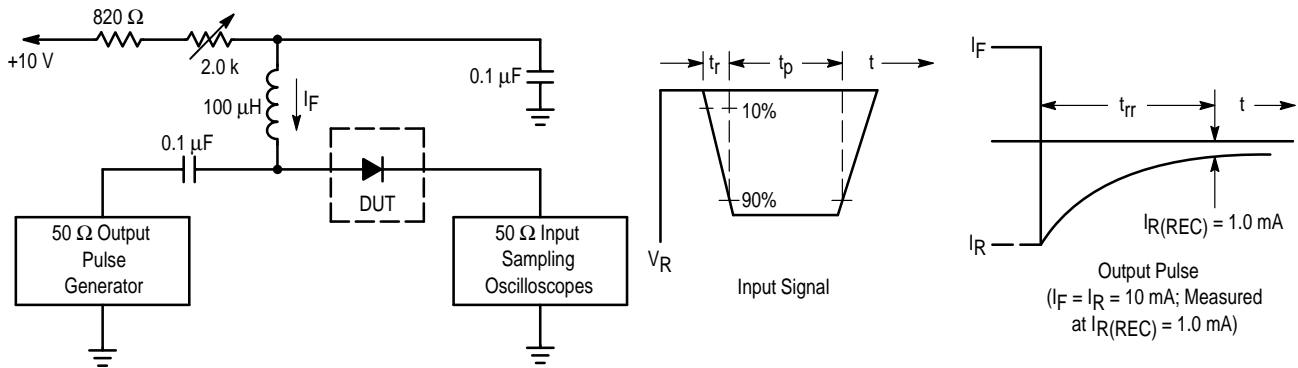
ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

| Characteristic | Symbol | Min | Max | Unit |
|----------------|--------|-----|-----|------|
|----------------|--------|-----|-----|------|

OFF CHARACTERISTICS

| | | | | |
|---|------------|----|-----------|-------------------------|
| Reverse Breakdown Voltage ($I_R = 100 \mu\text{Adc}$) | $V_{(BR)}$ | 75 | — | Vdc |
| Reverse Voltage Leakage Current ($V_R = 20 \text{Vdc}$) ($V_R = 75 \text{Vdc}$) | I_R | — | 25 5.0 | nAdc μAdc |
| Diode Capacitance ($V_R = 0, f = 1.0 \text{MHz}$) | C_T | — | 4.0 | pF |
| Forward Voltage ($I_F = 10 \text{mAdc}$) | V_F | — | 1.25 | Vdc |
| Reverse Recovery Time ($I_F = I_R = 10 \text{mAdc}$) (Figure 1) | t_{rr} | — | 4.0 | ns |

1. FR-5 = $1.0 \times 0.75 \times 0.062$ in.
2. Alumina = $0.4 \times 0.3 \times 0.024$ in. 99.5% alumina.



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

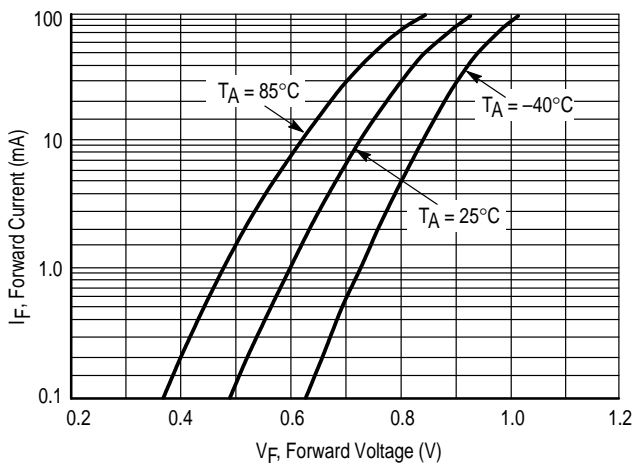


Figure 2. Forward Voltage

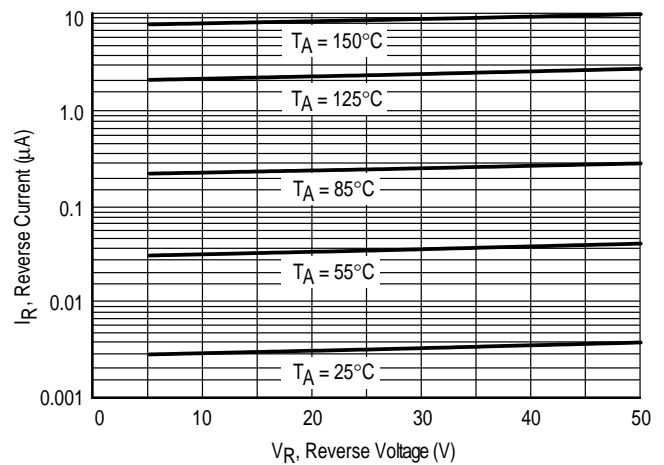


Figure 3. Leakage Current

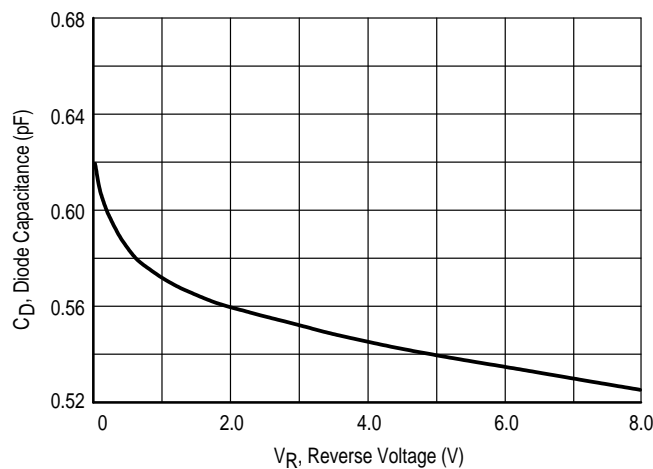


Figure 4. Capacitance