

**Features**

- Low Forward Voltage and Reverse Recovery Characteristics
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)

**Maximum Ratings**

- Operating Junction Temperature Range: -55°C to +125°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance: 500°C /W Junction to Ambient

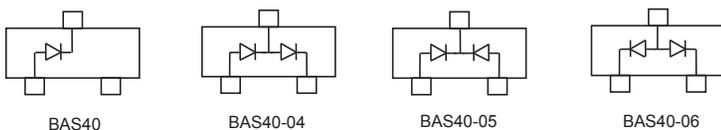
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|-----------------------------|
| BAS40           | 43             | 40V                                    | 40V                         |
| BAS40-04        | 44             | 40V                                    | 40V                         |
| BAS40-05        | 45             | 40V                                    | 40V                         |
| BAS40-06        | 46             | 40V                                    | 40V                         |

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|   |             |                          |   |
|---|-------------|--------------------------|---|
| Average Forward Current                         | $I_{F(AV)}$ | 200mA                    | 25°C  |
| Peak Forward Surge Current                      | $I_{FSM}$   | 600mA                    | $t_p < 1s, T_a = 25°C$                                |
| Power Dissipation                               | $P_d$       | 200mW                    | $T_A = 25°C$  |
| Maximum Forward Voltage                         | $V_F$       | 380mV<br>1000mV          | $I_F = 1.0mA$<br>$I_F = 40mA$                         |
| DC Reverse Current at Rated DC Blocking Voltage | $I_R$       | 10 nA(TYP)<br>200nA(MAX) | $t_p < 300\mu s, V_R = 30V$                           |
| Min Reverse Breakdown Voltage                   | $V_{BR}$    | 40V                      | $I_R = 10\mu A$                                       |
| Typical Junction Capacitance                    | $C_T$       | 5pF                      | Measured at 1.0MHz, $V_R = 0.0V$                      |
| Maximum Reverse Recovery Time                   | $t_{rr}$    | 5.0ns                    | $I_{rr} = 1mA, I_R = I_F = 10mA$<br>$R_L = 100\Omega$ |

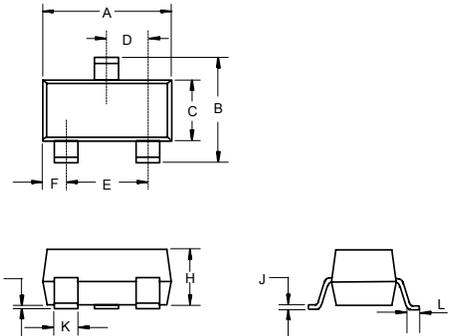
Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

**Internal Structure:**



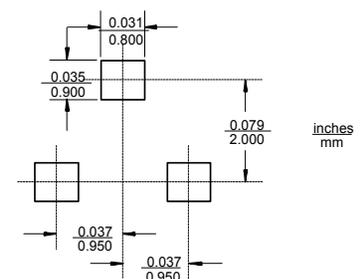
**200mW, 40V  
Schottky Barrier  
Diode**

**SOT-23**



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.110  | 0.120 | 2.80 | 3.04 |      |
| B   | 0.083  | 0.104 | 2.10 | 2.64 |      |
| C   | 0.047  | 0.055 | 1.20 | 1.40 |      |
| D   | 0.034  | 0.041 | 0.85 | 1.05 |      |
| E   | 0.067  | 0.083 | 1.70 | 2.10 |      |
| F   | 0.018  | 0.024 | 0.45 | 0.60 |      |
| G   | 0.0004 | 0.006 | 0.01 | 0.15 |      |
| H   | 0.035  | 0.043 | 0.90 | 1.10 |      |
| J   | 0.003  | 0.007 | 0.08 | 0.18 |      |
| K   | 0.012  | 0.020 | 0.30 | 0.51 |      |
| L   | 0.007  | 0.020 | 0.20 | 0.50 |      |

**Suggested Solder Pad Layout**



**Curve Characteristics**

Fig. 1 - Typical Instantaneous Forward Characteristics

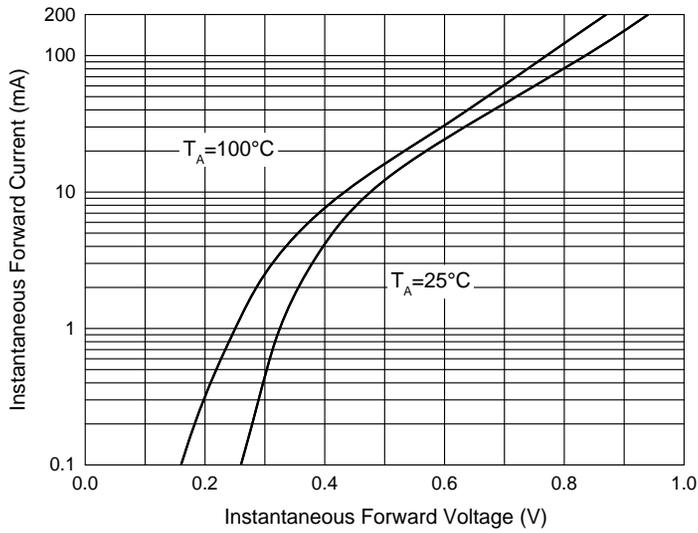


Fig. 2 - Typical Reverse Leakage Characteristics

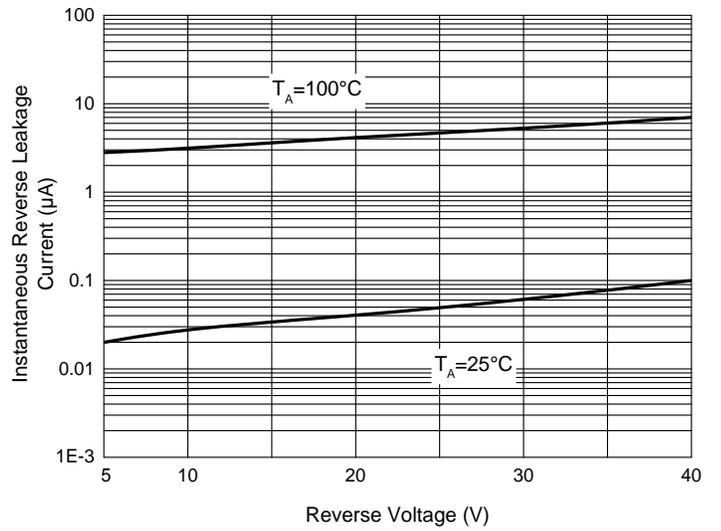
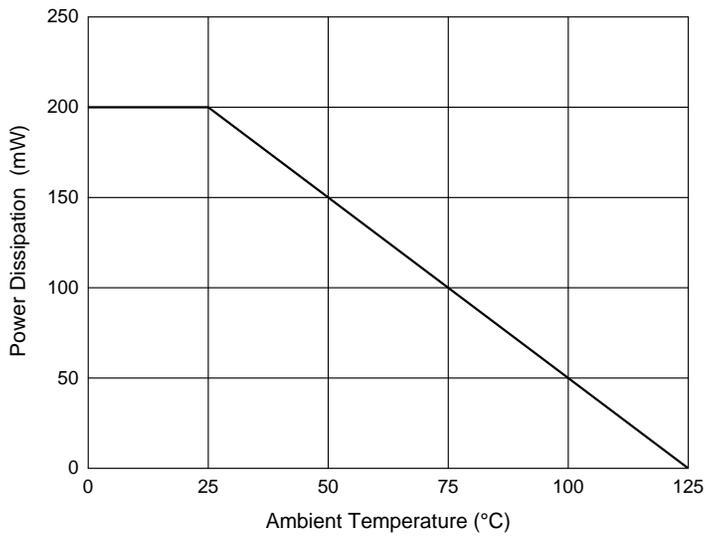


Fig. 3 - Power Derating Curve



## Ordering Information

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

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