

## Features

- Halogen Free. "Green" Device (Note 1)
- AEC-Q101 Qualified
- Low Forward Voltage and Reverse Recovery Characteristics
- 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 +150°C
- Storage Temperature Range: -55°C to +150°C
- Thermal Resistance(Note 2) : 357°C /W Junction to Ambient

| MCC Part Number | Repetitive Peak Reverse Voltage VRRM | RMS Reverse Voltage VR(RMS) | DC Blocking Voltage VR |
|-----------------|--------------------------------------|-----------------------------|------------------------|
| BAS40HE3        | 40V                                  | 28V                         | 40V                    |
| BAS40-04HE3     | 40V                                  | 28V                         | 40V                    |
| BAS40-05HE3     | 40V                                  | 28V                         | 40V                    |
| BAS40-06HE3     | 40V                                  | 28V                         | 40V                    |

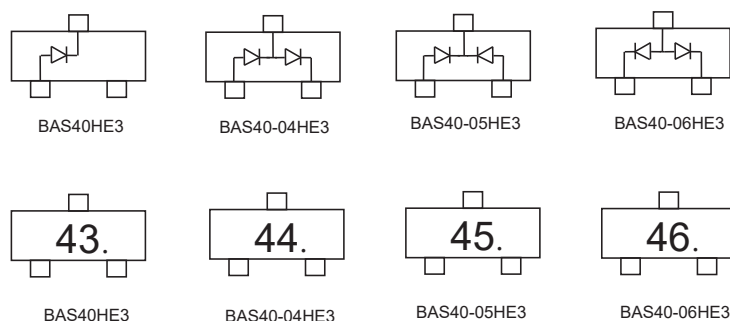
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                            |             |       |   |
|----------------------------|-------------|-------|---|
| Average Forward Current    | $I_{F(AV)}$ | 200mA | $T_A = 25^\circ\text{C}$                  |
| Peak Forward Surge Current | $I_{FSM}$   | 600mA | $t_p < 1\text{s}, T_A = 25^\circ\text{C}$ |
| Power Dissipation          | $P_d$       | 350mW | $T_A = 25^\circ\text{C}$                  |

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

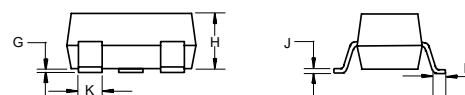
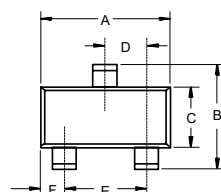
2. Part mounted on FR-4 board with recommended pad layout.

## Internal Structure and Marking Code



# 350mW, 40V Schottky Barrier Diode

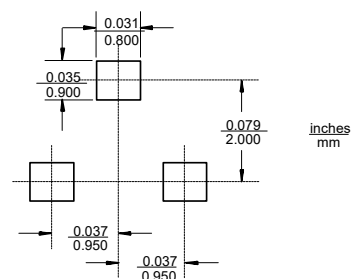
## SOT-23



## DIMENSIONS

| 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



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

| Parameter                 | Symbol   | Conditions  | Min. | Typ. | Max. | Units |
|---------------------------|----------|---|------|------|------|-------|
| Reverse Breakdown Voltage | $V_{BR}$ | $I_R=10\mu A$   | 40   |      |      | V     |
| Forward Voltage           | $V_F$    | $I_F=1mA$   |      |      | 0.38 | V     |
|                           |          | $I_F=40mA$  |      |      | 1    | V     |
| Reverse Current           | $I_R$    | $V_R=30V$   |      |      | 200  | nA    |
| Junction Capacitance      | $C_J$    | $V_R = 0V, f = 1MHz$                                      |      |      | 5    | pF    |
| Reverse Recovery Time     | $t_{rr}$ | $I_F=I_R=10mA,$<br>$I_{rr}=0.1 \times I_R, R_L=100\Omega$ |      |      | 5    | ns    |

## Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

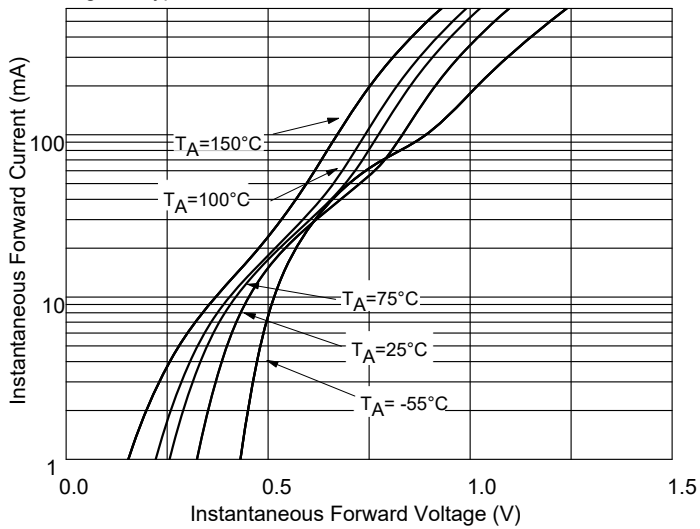


Fig. 2 - Typical Reverse Leakage Characteristics

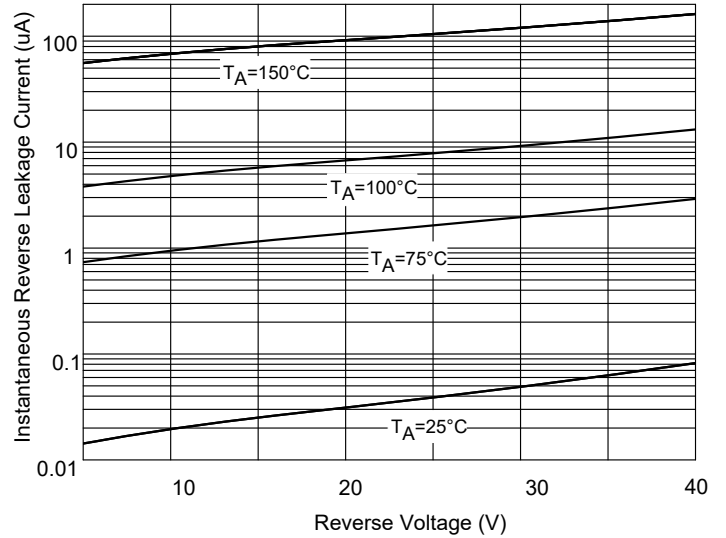


Fig. 3 - Capacitance Characteristics

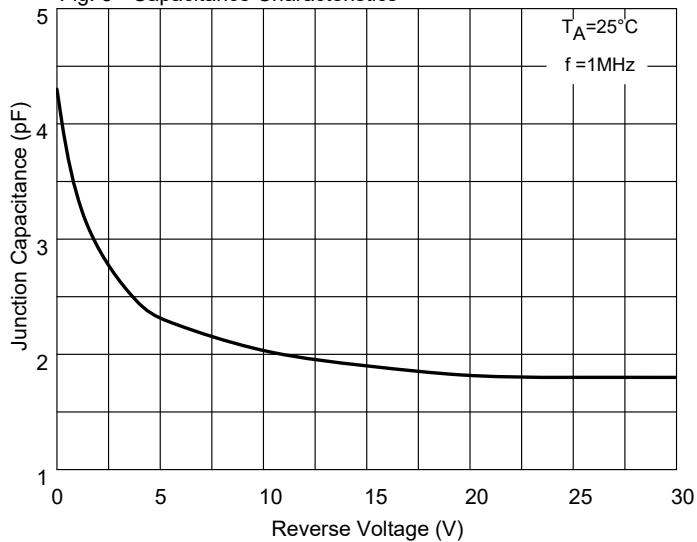
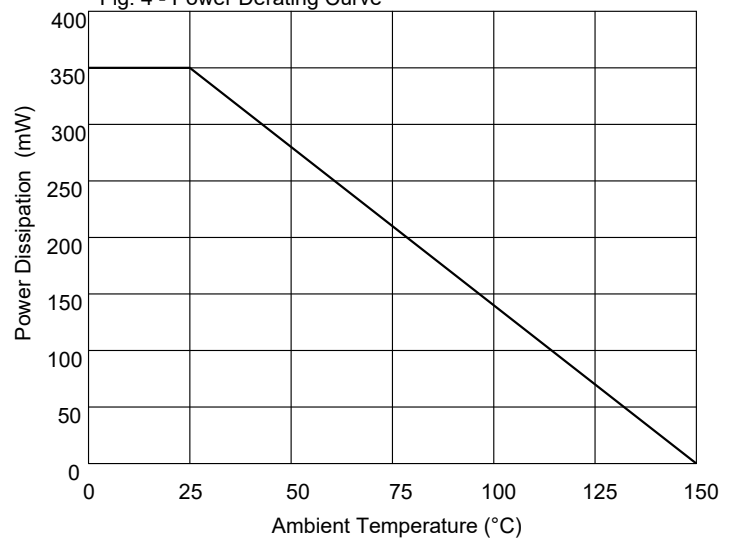


Fig. 4 - Power Derating Curve



## Ordering Information

| Device          | Packing                |
|-----------------|------------------------|
| Part Number-TP  | Tape&Reel: 3Kpcs/Reel  |
| Part Number-13P | Tape&Reel: 10Kpcs/Reel |

For packaging details, go to our website at <https://www.mccsemi.com/pdf/productpackaging/SOT-23%20Package.pdf>

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