

Features

- Halogen Free. "Green" Device (Note 1)
- Fully Automotive Qualified to AEC-Q101
- Low Forward Voltage
- 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: 625°C/W Junction to Ambient

| MCC Part Number | Repetitive Peak Reverse Voltage V_{RRM} | RMS Reverse Voltage $V_{R(RMS)}$ | DC Blocking Voltage V_R |
|-----------------|--|-------------------------------------|------------------------------|
| BAT54WTHQ | 30V | 21V | 30V |
| BAT54AWTHQ | 30V | 21V | 30V |
| BAT54CWTHQ | 30V | 21V | 30V |
| BAT54SWTHQ | 30V | 21V | 30V |

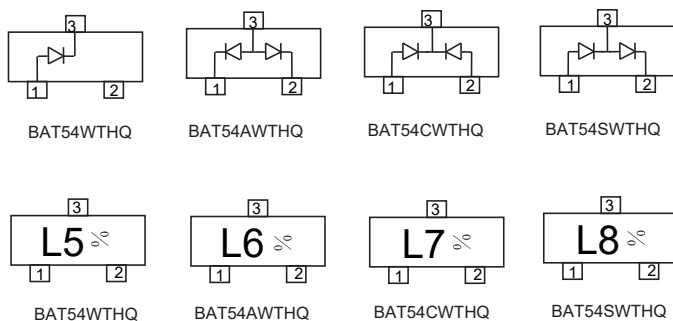
Electrical Characteristics @ 25°C Unless Otherwise Specified

| | | | |
|----------------------------|-------------|-------|--------------------|
| Average Forward Current | $I_{F(AV)}$ | 200mA | (Note 2) |
| Peak Forward Surge Current | I_{FSM} | 600mA | $t < 1s$ |
| Power Dissipation | P_d | 200mW | $T_A = 25^\circ C$ |

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

Note: 2. Mounted on FR-4 board with recommended pad layout.

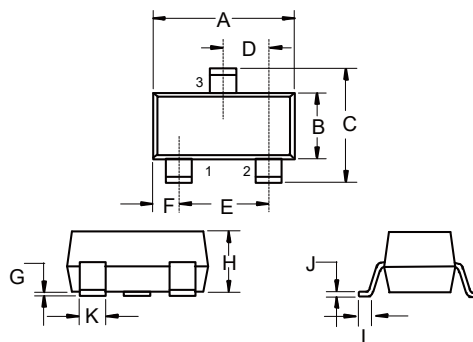
Internal Structure and Marking Code



Note: 3. \varnothing = placeholder for date code

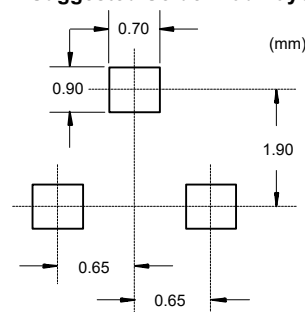
200mW, 30V Schottky Barrier Diode

SOT-323



| DIMENSIONS | | | | | |
|------------|--------|-------|------|------|------|
| DIM | INCHES | | MM | | NOTE |
| | MIN | MAX | MIN | MAX | |
| A | 0.071 | 0.087 | 1.80 | 2.20 | |
| B | 0.045 | 0.053 | 1.15 | 1.35 | |
| C | 0.083 | 0.096 | 2.10 | 2.45 | |
| D | 0.026 | | 0.65 | | TYP. |
| E | 0.047 | 0.055 | 1.20 | 1.40 | |
| F | 0.012 | 0.016 | 0.30 | 0.40 | |
| G | 0.000 | 0.004 | 0.00 | 0.10 | |
| H | 0.035 | 0.044 | 0.90 | 1.10 | |
| J | 0.002 | 0.010 | 0.05 | 0.25 | |
| K | 0.006 | 0.016 | 0.15 | 0.40 | |
| L | 0.010 | 0.018 | 0.26 | 0.46 | |

Suggested Solder Pad Layout



Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter | Symbol | Conditions | Min. | Typ. | Max. | Units |
|---------------------------|----------|--|------|------|------|---------|
| Reverse Breakdown Voltage | V_{BR} | $I_R=10\mu A$ | 30 | | | V |
| Forward Voltage | V_F | $I_F=0.1mA$ | | | 0.24 | V |
| | | $I_F=1mA$ | | | 0.32 | V |
| | | $I_F=10mA$ | | | 0.40 | V |
| | | $I_F=30mA$ | | | 0.50 | V |
| | | $I_F=100mA$ | | | 1.00 | V |
| Reverse Current | I_R | $V_R=25V$ | | | 2.00 | μA |
| Junction Capacitance | C_J | $V_R = 1V, f = 1MHz$ | | | 10 | pF |
| Reverse Recovery Time | t_{rr} | $I_F=I_R=10mA,$ $I_{rr}=0.1\times I_R, R_L=100\Omega$ | | | 5 | ns |

Pulse Test: Pulse Width 300 μsec , Duty Cycle 2%

Curve Characteristics

Fig. 1 - Typical Instantaneous Forward Characteristics

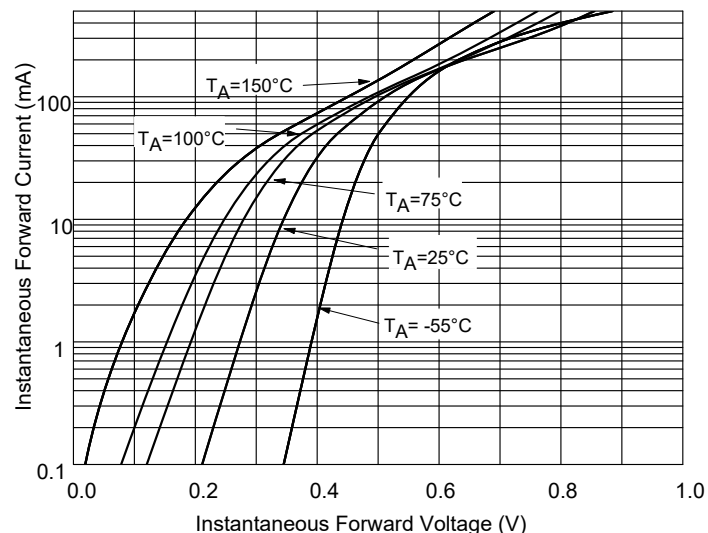


Fig. 2 - Typical Reverse Leakage Characteristics

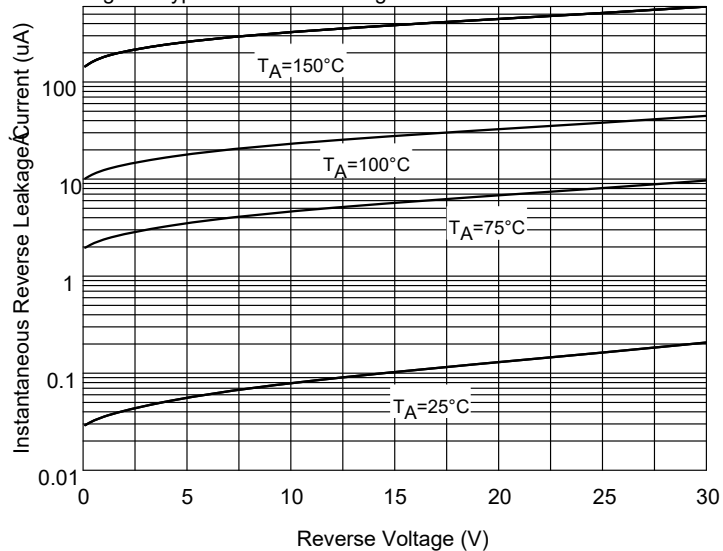


Fig. 3 - Capacitance Characteristics

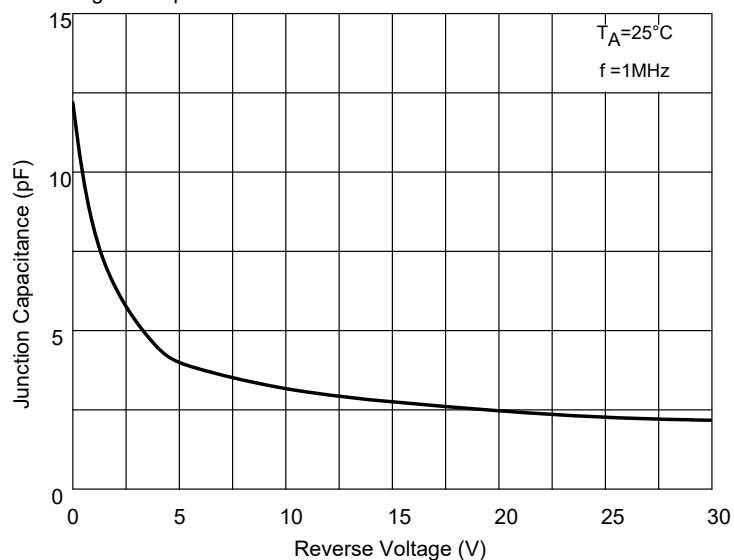
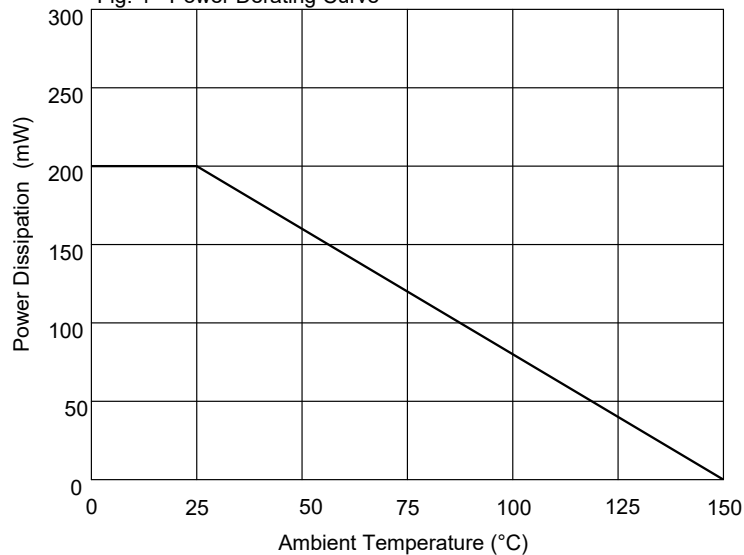


Fig. 4 - Power Derating Curve



Ordering Information

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

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