

50 AMP BUTTON DIODES

FEATURES

- PROPRIETARY **SOFT GLASS®** JUNCTION PASSIVATION FOR SUPERIOR RELIABILITY AND PERFORMANCE
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical $\leq 2\%$, Max. $\leq 10\%$ of Die Area)
- Compact molded design
- High surge current, 720 A @ $T_J = 175^\circ\text{C}$
- Low cost
- Peak performance at elevated temperatures: 50 A @ $T_J = 175^\circ\text{C}$

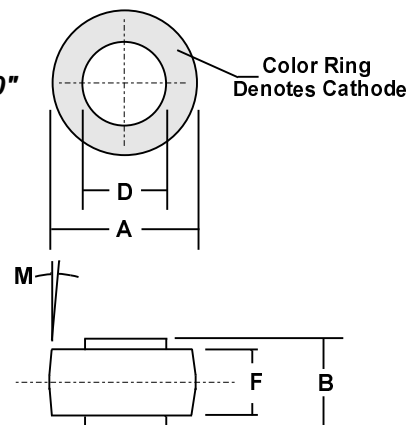
MECHANICAL DATA

- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Finish: All external surfaces are corrosion resistant and the contact areas are readily solderable
- Soldering Temperature: 250°C maximum
- Mounting Position: Any
- Polarity: Color band denotes cathode
- Weight: 0.6 Ounces (1.8 Grams)

RoHS COMPLIANT

MECHANICAL SPECIFICATION

Die Size:
0.180" x 0.180"
Square



| DIM | MILLIMETERS | | INCHES | |
|-----|-------------|------|--------|-------|
| | MIN | MAX | MIN | MAX |
| A | 8.43 | 8.69 | 0.332 | 0.342 |
| B | 5.94 | 6.25 | 0.234 | 0.246 |
| D | 5.46 | 5.71 | 0.215 | 0.225 |
| F | 4.19 | 4.45 | 0.165 | 0.175 |
| M | 5° NOM | | 5° NOM | |

MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| PARAMETER (TEST CONDITIONS) | SYMBOL | RATINGS | | | | | | | | UNITS |
|---|-----------------------------------|--------------------|-----------|-----------|-----------|-----------|-----------|-----------|-------|-------|
| Series Number | | BAR 5000S | BAR 5001S | BAR 5002S | BAR 5004S | BAR 5006S | BAR 5008S | BAR 5010S | | |
| Maximum DC Blocking Voltage | V _{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | VOLTS | |
| Maximum RMS Voltage | V _{RWM} | | | | | | | | | |
| Maximum Peak Recurrent Reverse Voltage | V _{DC} | | | | | | | | | |
| Non-repetitive Peak Reverse Voltage (Half wave, single phase, 60 Hz peak) | V _{RSM} | 60 | 120 | 240 | 480 | 720 | 960 | 1200 | | |
| Average Forward Rectified Current @ T _C =125 °C | I _O | 50 | | | | | | | | AMPS |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | I _{FSM} | 600 | | | | | | | | |
| Maximum Forward Voltage Drop at 50 Amp DC | V _{FM} | 1.1 (Typical 1.05) | | | | | | 1.15 | | VOLTS |
| Maximum Average DC Reverse Current @ T _A = 25 °C At Rated DC Blocking Voltage @ T _A = 100 °C | I _{RM} | 1 50 | | | | | | | | μA |
| Maximum Thermal Resistance, Junction to Case (Note 1) | R _{θJC} | 0.8 | | | | | | | | °C/W |
| Junction Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +175 | | | | | | | | °C |

Notes: 1) Single Side Cooled

BAR505