

## 50 AMP HIGH FREQUENCY SOFT RECOVERY BUTTON DIODES

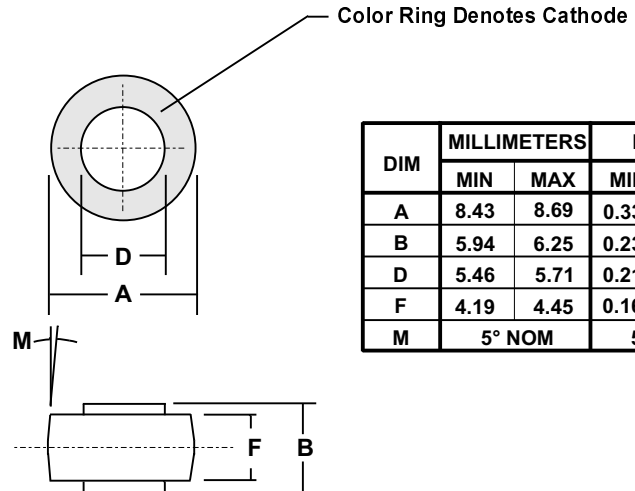
### FEATURES

- TRUE SOFT RECOVERY CHARACTERISTIC WITH NO RINGING, SPIKES, or OVERSHOOT
- HIGH FREQUENCY: 250 kHz  
FAST RECOVERY: 100nS - 150nS
- UNMATCHED PERFORMANCE - Minimal RFI/EMI, Reduced Power Losses, Extremely Cool Operation Increased Power Supply Efficiency
- VOID FREE Vacuum Die Soldering For Maximum Mechanical Strength And Heat Dissipation (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- Proprietary *SOFT GLASS* Junction Passivation For Superior Reliability and Performance
- Wide Range of Applications - Inverters, Converters Choppers, Power Supplies, etc.

### MECHANICAL DATA

- Case: Molded epoxy, U/L 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)

### MECHANICAL SPECIFICATION



| 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 |       |

**DIE SIZE: 0.180" x 0.180" SQUARE**

**RoHS COMPLIANT**

### MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.

| PARAMETER (TEST CONDITIONS)                                                         | SYMBOL                            | RATINGS           |           |           |           |           | UNITS |
|-------------------------------------------------------------------------------------|-----------------------------------|-------------------|-----------|-----------|-----------|-----------|-------|
|                                                                                     |                                   | SRP 5000S         | SRP 5001S | SRP 5002S | SRP 5004S | SRP 5006S |       |
| Series Number                                                                       |                                   |                   |           |           |           |           |       |
| Maximum DC Blocking Voltage                                                         | V <sub>RM</sub>                   | 50                | 100       | 200       | 400       | 600       | VOLTS |
| Maximum RMS Voltage                                                                 | V <sub>RMS</sub>                  | 35                | 70        | 140       | 280       | 420       |       |
| Maximum Peak Recurrent Reverse Voltage                                              | V <sub>RIRM</sub>                 | 50                | 100       | 200       | 400       | 600       |       |
| Average Forward Rectified Current                                                   | I <sub>o</sub>                    | 50                |           |           |           |           | AMPS  |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | I <sub>FSM</sub>                  | 720               |           |           |           |           |       |
| Maximum Forward Voltage at 35 Amps DC                                               | V <sub>FM</sub>                   | 1.2 (Typical 1.1) |           |           |           |           | VOLTS |
| Maximum Average DC Reverse Current<br>At Rated DC Blocking Voltage                  | I <sub>RM</sub>                   | 1.0<br>50         |           |           |           |           | μA    |
| Typical Thermal Resistance, Junction to Case                                        | R <sub>θJC</sub>                  | 0.8               |           |           |           |           | °C/W  |
| Maximum Reverse Recovery Time - Soft Recovery                                       | T <sub>RR</sub>                   | 150 (Typ. 100)    |           |           |           |           | nSec  |
| Junction Operating and Storage Temperature Range                                    | T <sub>J</sub> , T <sub>STG</sub> | -65 to +150       |           |           |           |           | °C    |

07.03 SRP5004S