

10 AMP SUPER-EFFICIENT RECTIFIERS

FEATURES

- Glass Passivated for high reliability/temperature performance
- Low switching noise
- Low forward voltage drop
- Low thermal resistance
- High switching capability
- High surge capability

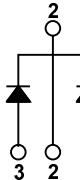
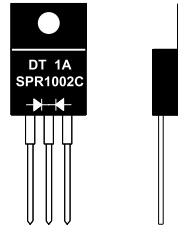
MECHANICAL DATA

- Case: TO-220 molded epoxy (Fully Insulated) (U/L Flammability Rating 94V-0)
- Terminals: Rectangular pins w/ standoff
- Solderability: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Diodes depicted on product
- Mounting Position: Any
- Weight: 0.06 Ounces (1.75 Grams)

MECHANICAL SPECIFICATION

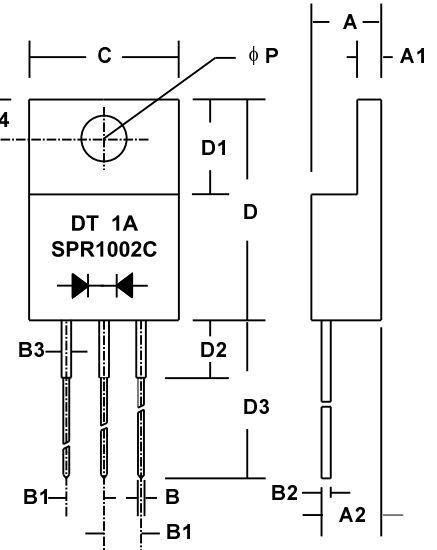
ACTUAL SIZE OF TO-220AB PACKAGE

FULLY INSULATED PACKAGE



| Sym | Minimum | | Maximum | |
|-----|---------|-------|---------|------|
| | in | mm | in | mm |
| A | | | 0.187 | 4.75 |
| A1 | 0.055* | 1.4* | | |
| A2 | 0.14* | 3.56* | | |
| B | 0.035 | 0.9 | 0.043 | 1.1 |
| B1 | 0.09 | 2.3 | 0.102 | 2.6 |
| B2 | 0.028* | 0.66* | | |
| B3 | 0.051* | 1.3* | | |
| C | | | 0.410 | 10.4 |
| D | 0.59 | 15.0 | 0.61 | 15.5 |
| D1 | 0.25* | 6.4* | | |
| D2 | | | 0.16 | 4.0 |
| D3 | 0.53 | 13.5 | 0.57 | 14.8 |
| D4 | 0.108* | 2.75* | | |
| P | 0.141* | 3.58* | | |

* These dimensions are "Typicals".



ITO - 220AB

SERIES SPR1001C - SPR1005C

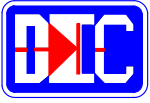
MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
 Single phase, half wave, 60Hz, resistive or inductive load.
 For capacitive loads, derate current by 20%.

| PARAMETER (TEST CONDITIONS) | SYMBOL | RATINGS | | | | | UNITS |
|---|-----------------------------------|-------------|-----------|-----------|-----------|-----------|-------|
| | | SPR 1001C | SPR 1002C | SPR 1003C | SPR 1004C | SPR 1005C | |
| Series Number | | | | | | | |
| Maximum DC Blocking Voltage | V _{RM} | 100 | 200 | 300 | 400 | 500 | VOLTS |
| Maximum RMS Voltage | V _{RMS} | 70 | 140 | 210 | 280 | 350 | |
| Maximum Peak Recurrent Reverse Voltage | V _{RRM} | 100 | 200 | 300 | 400 | 500 | |
| Average Forward Rectified Current @ T _c = 120 °C | I _O | 10 | | | | | AMPS |
| Peak Forward Surge Current (8.3mS single half sine wave superimposed on rated load) | I _{FSM} | 100 | | | | | |
| Maximum Forward Voltage (per diode) at 5 Amps DC | V _{FM} | 1.0 | | 1.25 | | | VOLTS |
| Maximum Average DC Reverse Current @ T _c = 25 °C At Rated DC Blocking Voltage @ T _c = 100 °C | I _{RM} | 10 500 | | | | | μA |
| Typical Thermal Resistance, Junction to Case | R _{θJC} | 3 | | | | | °C/W |
| Typical Junction Capacitance (Note 1) | C _J | 65 | | | | | pF |
| Maximum Reverse Recovery Time (I _F =5.0A, di/dt=50A/μS, T _J =25°C) | T _{RR} | 35 | | 45 | | | nSec |
| Junction Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | | | | | °C |

NOTES: (1) Measured at 1 MHz and an applied reverse voltage of 4 volts.

4.978ed110



10 AMP SUPER EFFICIENT RECTIFIERS

RATING & CHARACTERISTIC CURVES FOR SERIES SPR1001C - SPR1005C

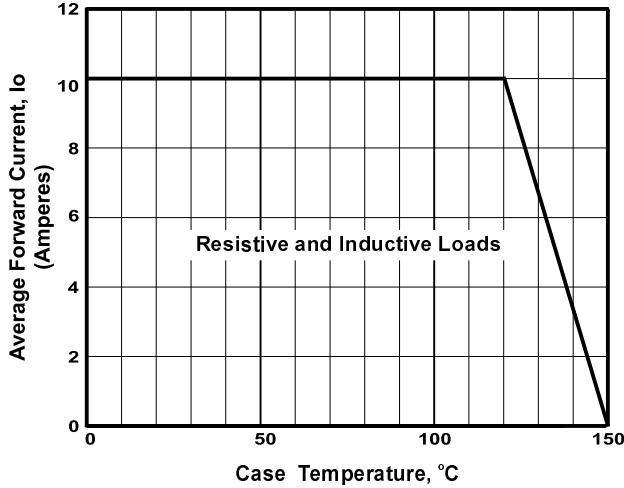


FIGURE 1. FORWARD CURRENT DERATING CURVE

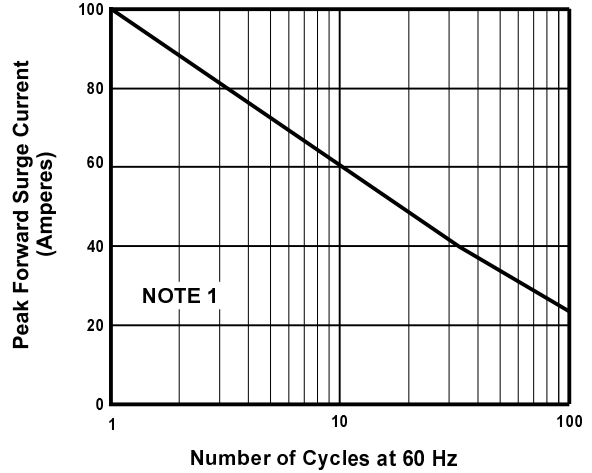


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

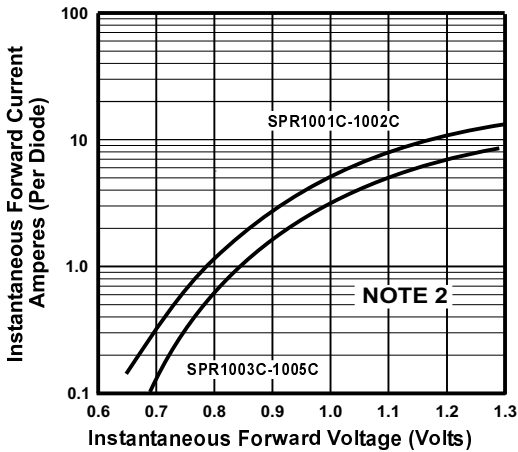


FIGURE 3. TYPICAL FORWARD CHARACTERISTICS

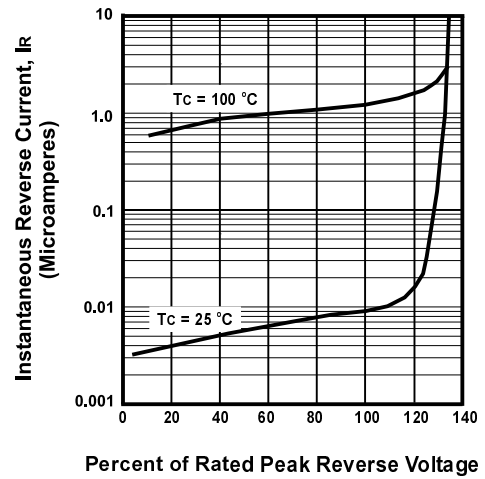


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

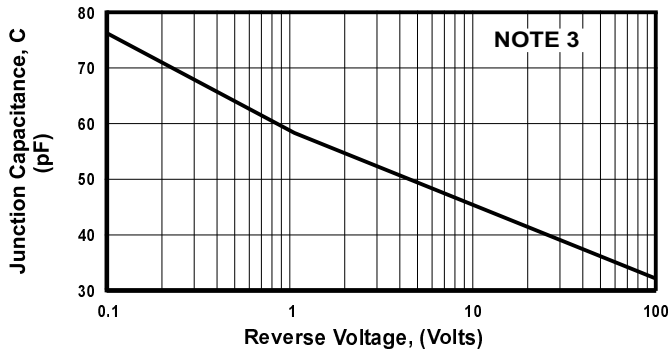


FIGURE 5. TYPICAL JUNCTION CAPACITANCE

NOTES

- (1) JEDEC Method, 8.3 mSec. Single Half Sine Wave
- (2) $T_J = 25^\circ\text{C}$, Pulse Width = 300 μSec , 2.0% Duty Cycle
- (3) $T_J = 25^\circ\text{C}$