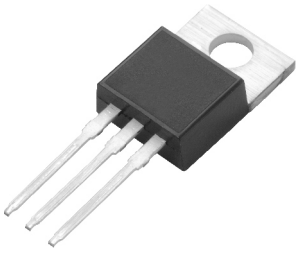
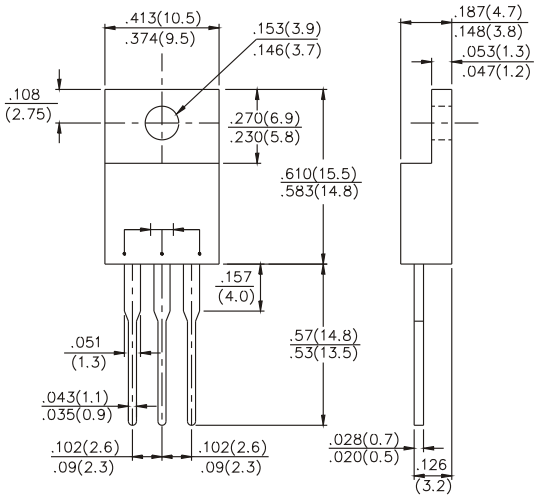
# SF2001CT thru SF2007CT

## SUPERFAST RECOVERY RECTIFIER

**VOLTAGE - 50 TO 600 VOLTS CURRENT - 20 AMPERES**



TO-220AB




Dimensions in inches and (millimeters)

## FEATURES

- High current capability
- High surge current capability
- Low reverse current
- Component in accordance to RoHS 2002/95/EC

## MECHANICAL DATA

- Case: TO-220AB
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Terminals: Lead Free Plating (Tin Finish). Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Weight: 1.948 grams (approximate)

## MAXIMUM RATIXGS AND ELECTRICAL CHARACTERISTICS

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

| PARAMETER | SYMBOL | SF 2001CT | SF 2002CT | SF 2003CT | SF 2004CT | SF 2005CT | SF 2006CT | SF 2007CT | UNIT |
|---|---|---|---|---|---|---|---|---|---|
| Maximum repetitive peak reverse voltage | $V_{RRM}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum RMS voltage | $V_{RMS}$ | 35 | 70 | 105 | 140 | 210 | 280 | 420 | V |
| Maximum DC blocking voltage | $V_{DC}$ | 50 | 100 | 150 | 200 | 300 | 400 | 600 | V |
| Maximum average forward rectified current(Total)<br>(Per Leg) | $I_F$ | 20.0<br>10.0 | | | | | | | A |
| Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load | $I_{FSM}$ | 150.0 | | | | | | | A |
| Maximum instantaneous $I_F$=10A @ 25°C | $V_F$ | 1.00 | | | | 1.35 | | 1.75 | V |
| Maximum DC reverse current @ TA=25°C<br>at rated DC blocking voltage @ TA=100°C | $I_R$ | 10<br>200 | | | | | | | uA |
| Maximum Reverse Recovery Time(NOTE2) | Trr | 35 | | | | 50 | | | ns |
| Typical junction capacitance(NOTE1) | $C_J$ | 50 | | | | | | | pF |
| Typical thermal resistance | $R_{\theta JA}$ | 10 | | | | | | | °C/W |
| | $R_{\theta JC}$ | 3 | | | | | | | |
| Operating temperature range | $T_J$ | -55 to +150 | | | | | | | °C |
| Storage temperature range | $T_{STG}$ | -55 to +150 | | | | | | | °C |

NOTES: 1.Measured at 1.0MHz and applied reverse voltage of 4.0V DC
2.Measured with IF=0.5A, IR=1A, IRR=0.25A

## SUPERFAST RECOVERY RECTIFIER

FIG. 1-TYPICAL FORWARD CURRENT DERATING CURVE

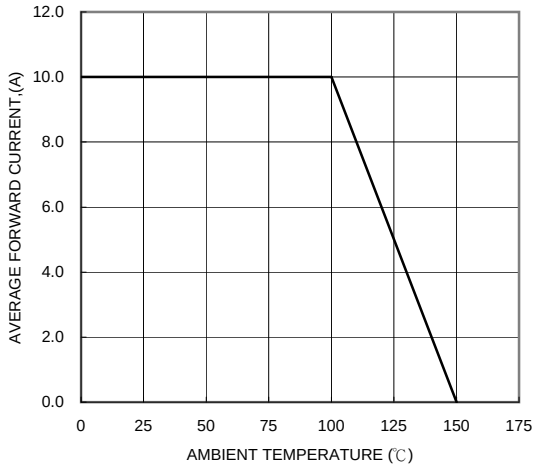



FIG. 2-TYPICAL FORWARD CHARACTERISTICS

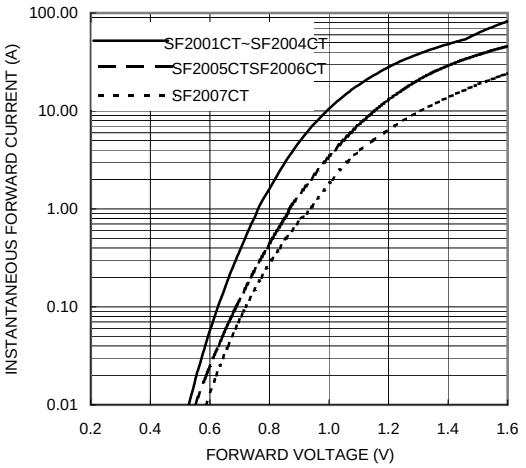



FIG. 3-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

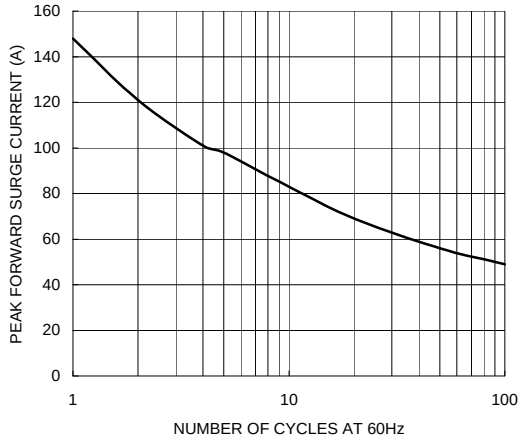



FIG. 4-TYPICAL REVERSE CHARACTERISTICS

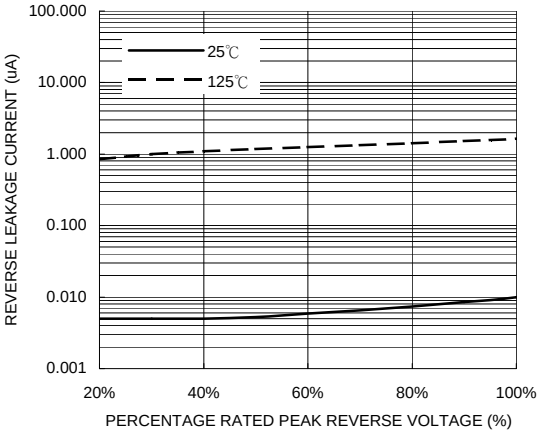



FIG. 5-TYPICAL JUNCTION CAPACITANCE