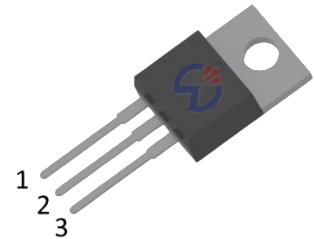


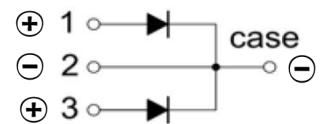
## FEATURES

- Low power loss, high efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- Guard Ring for over voltage protection
- For use in low voltage high frequency inverters, free wheeling, and polarity protection applications


**TO-220**

## MECHANICAL DATA

- Case: TO-220
- Case Material: Molded Plastic. UL flammability
- Classification Rating: 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Weight: 2.30 grams (approximate)



## MAXIMUM RATINGS ( $T_A = 25^{\circ}\text{C}$ unless otherwise noted)

| Parameter                                                        | Symbol          | Value      | Unit                 |
|------------------------------------------------------------------|-----------------|------------|----------------------|
| Repetitive peak reverse voltage                                  | $V_{RRM}$       | 300        | V                    |
| DC Reverse Voltage                                               | $V_R$           | 300        | V                    |
| RMS Reverse Voltage                                              | $V_{RMS}$       | 210        | V                    |
| Non-Repetitive Peak Forward Surge Current @ $t = 8.3 \text{ ms}$ | $I_{FSM}$       | 120        | A                    |
| Mean rectifying current                                          | $I_F$           | 10         | A                    |
| Power dissipation                                                | $P_D$           | 2          | W                    |
| Thermal Resistance From Junction To Ambient                      | $R_{\theta JA}$ | 50         | $^{\circ}\text{C/W}$ |
| Junction Temperature                                             | $T_J$           | 125        | $^{\circ}\text{C}$   |
| Storage Temperature                                              | $T_{STG}$       | -55 ~ +150 | $^{\circ}\text{C}$   |

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^{\circ}\text{C}$ unless otherwise specified)

| Parameter            | Symbol | Min  | Max | Unit | Conditions                         |
|----------------------|--------|------|-----|------|------------------------------------|
| Forward voltage      | $V_F$  |      | 1.1 | V    | $I_F = 10\text{A}$                 |
| Reverse current      | $I_R$  |      | 0.1 | mA   | $V_R = 300\text{V}$                |
| Reverse voltage      | $V_R$  | 300V |     | V    | $I_R = 0.1\text{mA}$               |
| Junction capacitance | $C_J$  |      | 50  | pF   | $V_R = 4\text{V}, f = 1\text{MHz}$ |

## Typical Characteristics

FIG.1: FORWARD CURRENT DERATING CURVE

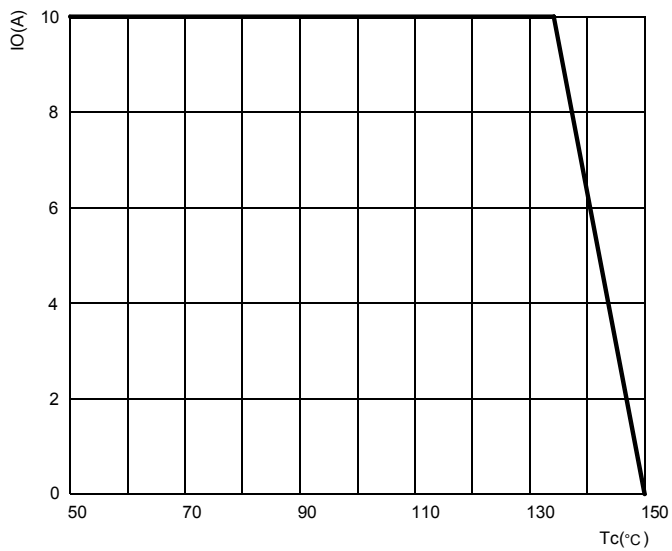


FIG.2: MAXIMUM NON-REPETITIVE FORWARD URGE CURRENT

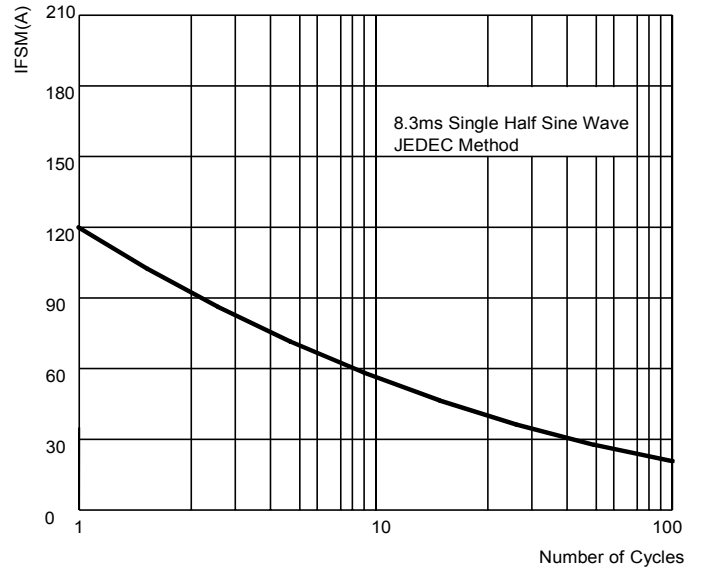


FIG3: Instantaneous Forward Voltage

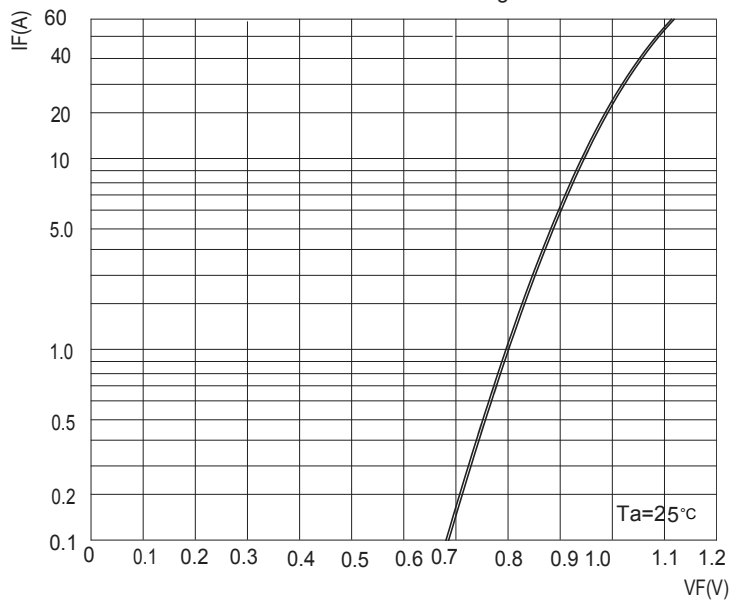
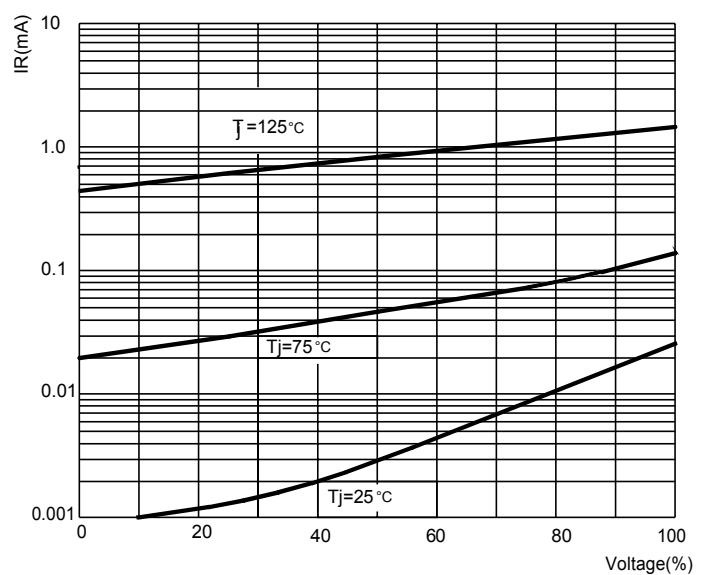
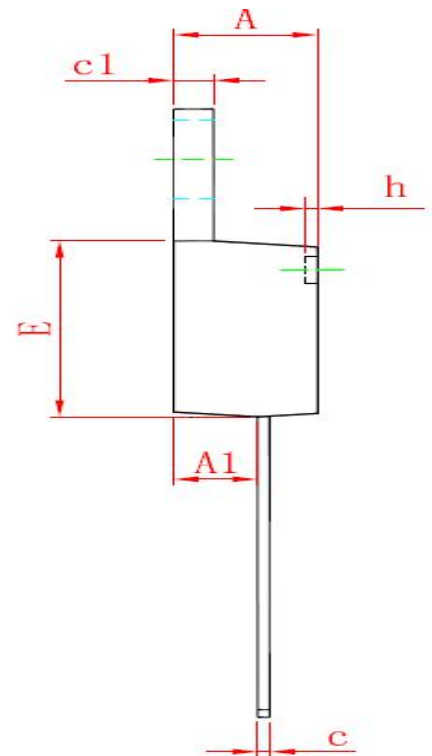
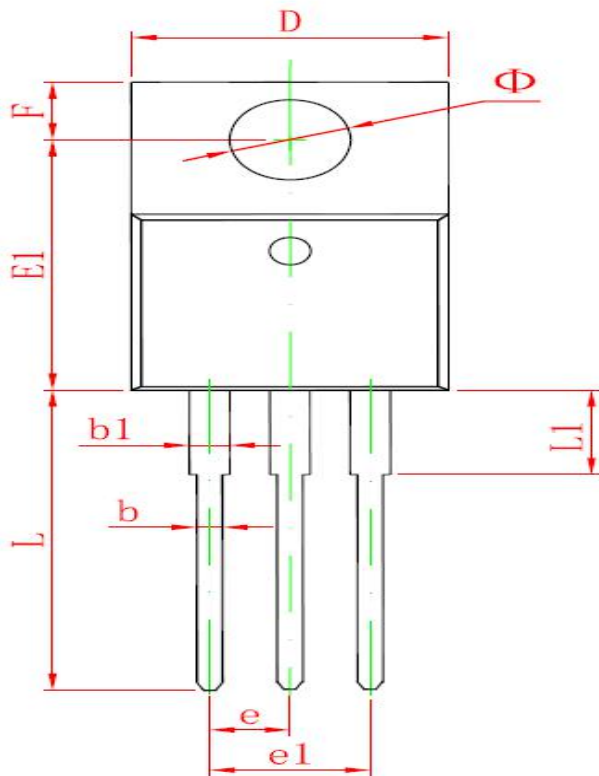


FIG.4 : TYPICAL REVERSE CHARACTERISTICS



**TO-220 Package Outline Dimensions**



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 4.470                     | 4.670  | 0.176                | 0.184 |
| A1     | 2.520                     | 2.820  | 0.099                | 0.111 |
| b      | 0.710                     | 0.910  | 0.028                | 0.036 |
| b1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| c      | 0.310                     | 0.530  | 0.012                | 0.021 |
| c1     | 1.170                     | 1.370  | 0.046                | 0.054 |
| D      | 10.010                    | 10.310 | 0.394                | 0.406 |
| E      | 8.500                     | 8.900  | 0.335                | 0.350 |
| E1     | 12.060                    | 12.460 | 0.475                | 0.491 |
| e      | 2.540Typ                  |        | 0.100Typ             |       |
| e1     | 4.980                     | 5.180  | 0.196                | 0.204 |
| F      | 2.590                     | 2.890  | 0.102                | 0.114 |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| L      | 13.400                    | 13.800 | 0.528                | 0.543 |
| L1     | 3.560                     | 3.960  | 0.140                | 0.156 |
| Ø      | 3.735                     | 3.935  | 0.147                | 0.155 |