

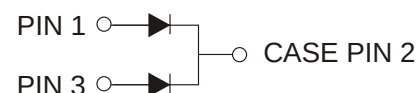


## Features

- Low power loss,high efficiency
- High current capability,low forward voltage drop
- High surge capability



TO-220F(ITO-220AB-3)



## Maximum Ratings (Ta=25°C unless otherwise noted)

| Symbol          | Parameter                                                        | Limit    | Unit |
|-----------------|------------------------------------------------------------------|----------|------|
| $V_{RRM}$       | Peak repetitive reverse voltage                                  | 200      | V    |
| $V_{RWM}$       | Working peak reverse voltage                                     |          |      |
| $V_R$           | DC blocking voltage                                              |          |      |
| $V_{R(RMS)}$    | RMS reverse voltage                                              | 140      | V    |
| $I_O$           | Average rectified output current                                 | 20       | A    |
| $I_{FSM}$       | Non-Repetitive peak forward surge current (8.3ms half sine wave) | 175      | A    |
| $R_{\theta JC}$ | Thermal resistance from junction to case ,Tc=25°C                | 2.0      | °C/W |
| $R_{\theta JA}$ | Thermal resistance from junction to ambient                      | 62.5     | °C/W |
| $T_j$           | Junction temperature                                             | 150      | °C   |
| $T_{stg}$       | Storage temperature                                              | -55~+150 | °C   |

## Electrical Characteristics (Ta=25°C unless otherwise specified)

| Parameter       | Symbol     | Test conditions |                    | Min | Typ  | Max | Unit    |
|-----------------|------------|-----------------|--------------------|-----|------|-----|---------|
| Reverse voltage | $V_{(BR)}$ | $I_R=0.1mA$     |                    | 200 |      |     | V       |
| Reverse current | $I_R$      | $V_R=200V$      | $T_j=25^{\circ}C$  |     |      | 100 | $\mu A$ |
|                 |            |                 | $T_j=125^{\circ}C$ |     |      | 150 | mA      |
| Forward voltage | $V_F$      | $I_F=10A$       | $T_j=25^{\circ}C$  |     | 1.00 |     | V       |
|                 |            |                 | $T_j=125^{\circ}C$ |     | 0.92 |     | V       |
|                 |            | $I_F=20A$       | $T_j=25^{\circ}C$  |     | 1.20 |     | V       |
|                 |            |                 | $T_j=125^{\circ}C$ |     | 1.10 |     | V       |

\*Pulse test: pulse width  $\leq 300\mu s$ , duty cycles  $\leq 2.0\%$ .



## Typical Characteristics

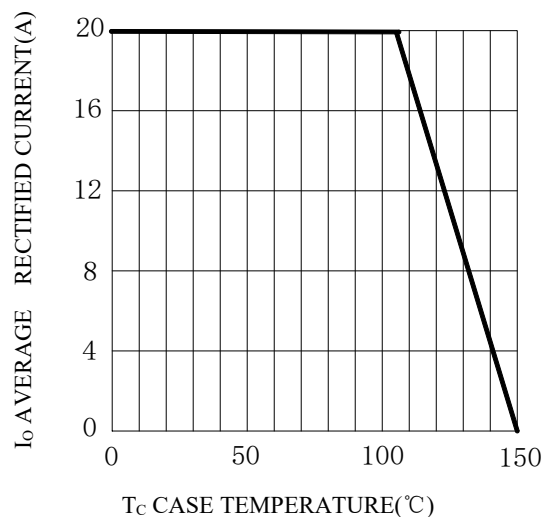


Fig.1 Forward Current Derating Curve

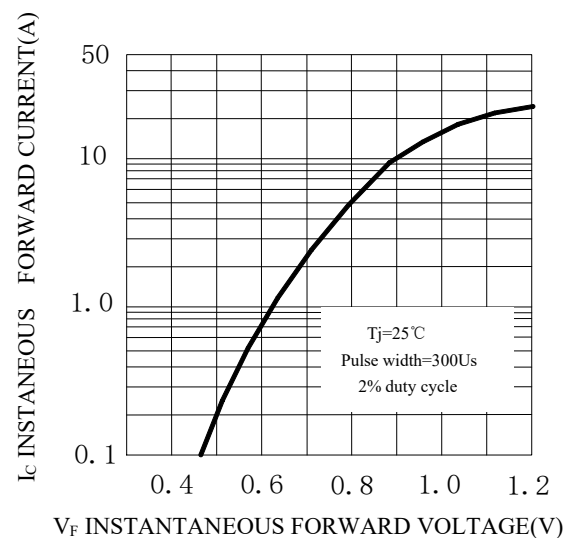


Fig.2 Typical Forward Characteristics

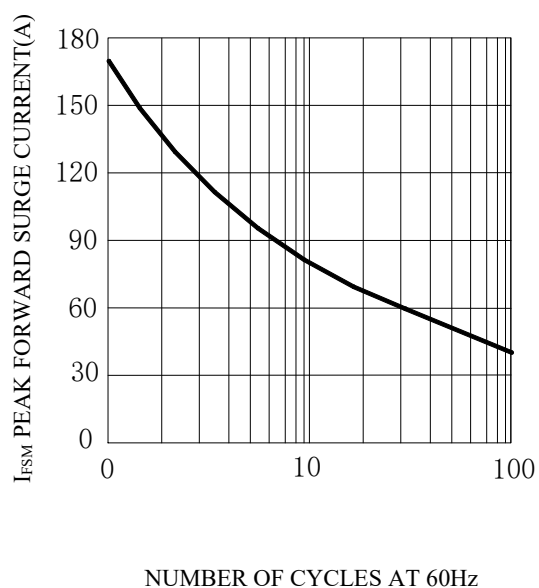


Fig.3 Max Non-Repetitive Surge Current

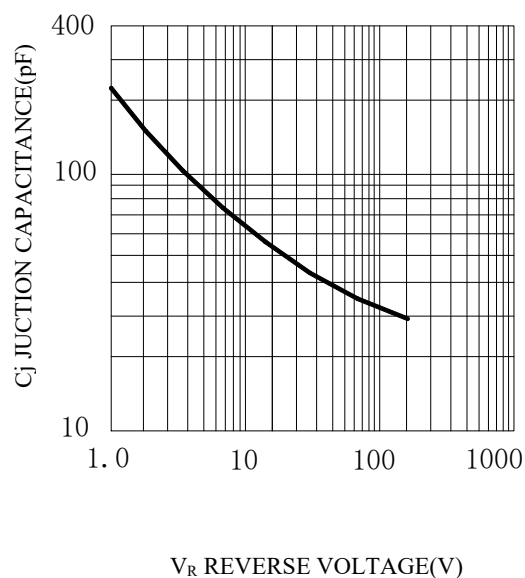
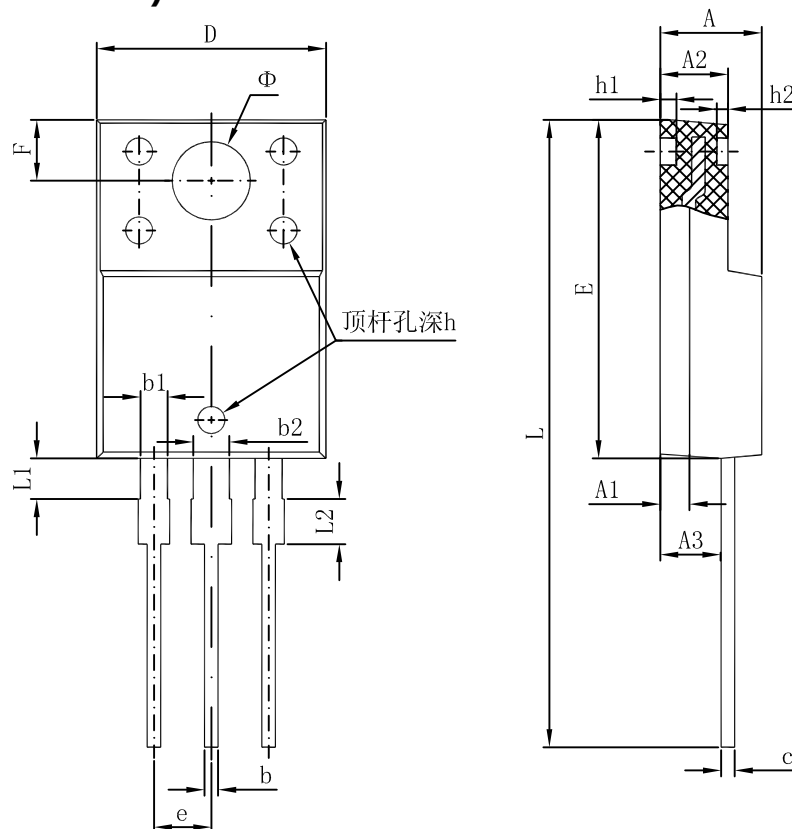


Fig.4 Typical Junction Capacitance



Package Information  
TO-220F(ITO-220AB-3)



| Symbol | Dimensions In Millimeters |        | Dimensions In Inches |       |
|--------|---------------------------|--------|----------------------|-------|
|        | Min.                      | Max.   | Min.                 | Max.  |
| A      | 4.300                     | 4.700  | 0.169                | 0.185 |
| A1     | 1.300 REF.                |        | 0.051 REF.           |       |
| A2     | 2.800                     | 3.200  | 0.110                | 0.126 |
| A3     | 2.500                     | 2.900  | 0.098                | 0.114 |
| b      | 0.500                     | 0.750  | 0.020                | 0.030 |
| b1     | 1.100                     | 1.350  | 0.043                | 0.053 |
| b2     | 1.500                     | 1.750  | 0.059                | 0.069 |
| c      | 0.500                     | 0.750  | 0.020                | 0.030 |
| D      | 9.960                     | 10.360 | 0.392                | 0.408 |
| E      | 14.800                    | 15.200 | 0.583                | 0.598 |
| e      | 2.540 TYP.                |        | 0.100 TYP.           |       |
| F      | 2.700 REF.                |        | 0.106 REF.           |       |
| $\Phi$ | 3.500 REF.                |        | 0.138 REF.           |       |
| h      | 0.000                     | 0.300  | 0.000                | 0.012 |
| h1     | 0.800 REF.                |        | 0.031 REF.           |       |
| h2     | 0.500 REF.                |        | 0.020 REF.           |       |
| L      | 28.000                    | 28.400 | 1.102                | 1.118 |
| L1     | 1.700                     | 1.900  | 0.067                | 0.075 |
| L2     | 1.900                     | 2.100  | 0.075                | 0.083 |



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