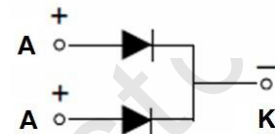
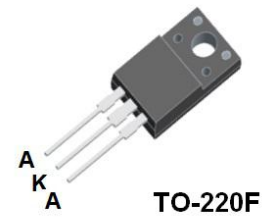


● **Features:**

- Common Cathode Structure
- Low Power Loss and High Efficiency
- Ultra Low Forward Voltage Drop
- High Surge Capability

● **Application:**

- High Frequency Switch
- Free Wheeling, and Polarity Protection Applications



**Absolute Maximum Ratings**( $T_c=25^{\circ}\text{C}$  unless otherwise noted)

| Symbol      | Parameter  | Value                         | Unit               |
|-------------|--|-------------------------------|--------------------|
| $V_{RRM}$   | Maximum Repetitive Reverse Voltage                           | 100                           | V                  |
| $V_R$       | Maximum DC Reverse Voltage                                   | 100                           | V                  |
| $I_{F(AV)}$ | Average Rectified Forward Current, $T_c=120^{\circ}\text{C}$ | 10(Per Leg)<br>20(Per Device) | A                  |
| $I_{FSM}$   | Peak Forward Surge Current, 8.3ms Half Sine wave             | 150                           | A                  |
| $T_j$       | Operating Junction Temperature                               | 150                           | $^{\circ}\text{C}$ |
| $T_{stg}$   | Storage Temperature Range                                    | -55 to +150                   | $^{\circ}\text{C}$ |

**Thermal Characteristics**( $T_c=25^{\circ}\text{C}$  unless otherwise noted)

| Symbol          | Parameter                                    | Max | Unit                        |
|-----------------|--|-----|-----------------------------|
| $R_{\theta JC}$ | Thermal Resistance, Junction to Case Per Leg | 3.5 | $^{\circ}\text{C}/\text{W}$ |

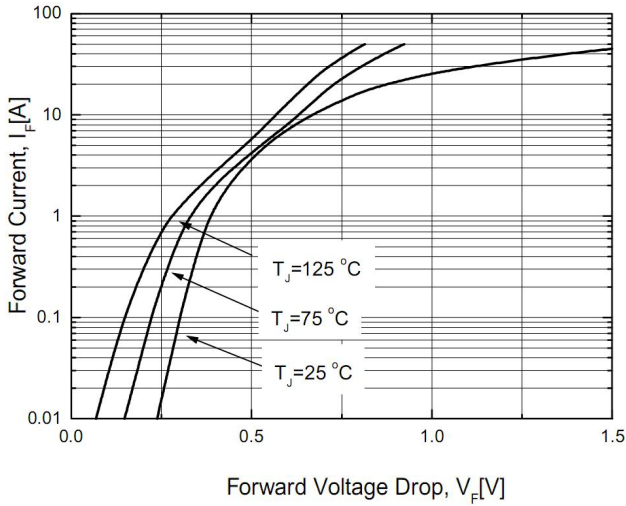
**Electrical Characteristics**( $T_c=25^{\circ}\text{C}$  unless otherwise noted)

| Symbol    | Parameter                          | Test Conditions  | Min | Max                          | Unit |
|-----------|------------------------------------|--|-----|------------------------------|------|
| $V_{RRM}$ | Maximum Repetitive Reverse Voltage | $I_R=100\mu\text{A}$   | 100 |                              | V    |
| $I_R$     | Reverse Current                    | $V_R=100\text{V}$ $T_c=25^{\circ}\text{C}$<br>$V_R=100\text{V}$ $T_c=125^{\circ}\text{C}$  |     | 0.1<br>15                    | mA   |
| $V_F$     | Forward Voltage                    | $I_F=10\text{A}$ $T_c=25^{\circ}\text{C}$<br>$I_F=10\text{A}$ $T_c=125^{\circ}\text{C}$<br>$I_F=20\text{A}$ $T_c=25^{\circ}\text{C}$<br>$I_F=20\text{A}$ $T_c=125^{\circ}\text{C}$ |     | 0.73<br>0.63<br>0.83<br>0.73 | V    |

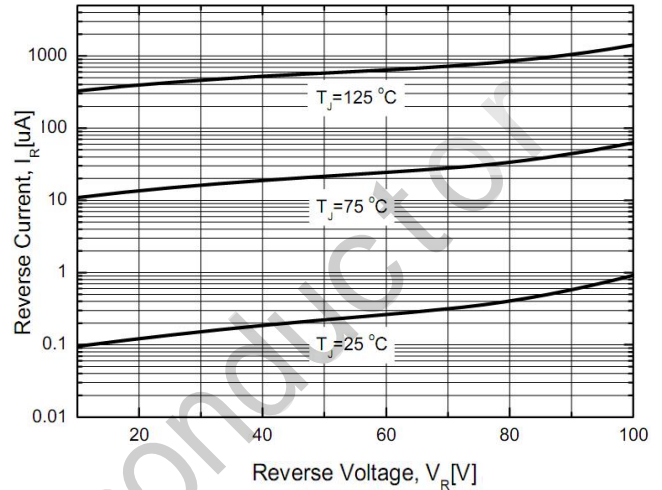
$V_F$  Typical Values: 0.66V@  $I_F=10\text{A}$ ,  $T_c=25^{\circ}\text{C}$

**Typical Performance Characteristics**

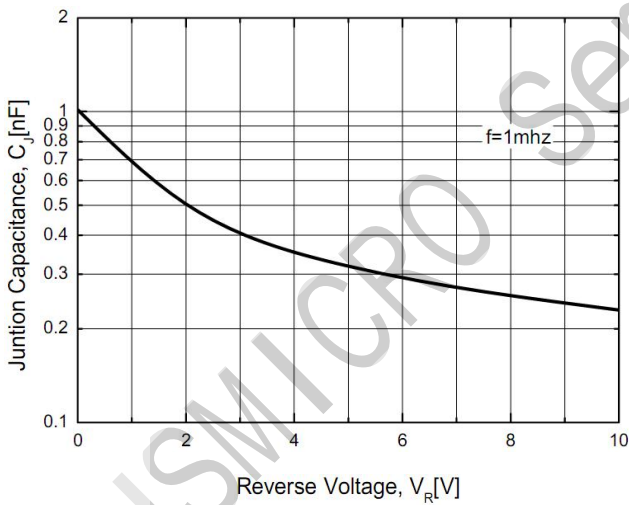
**Figure 1. Forward Current Characteristics**



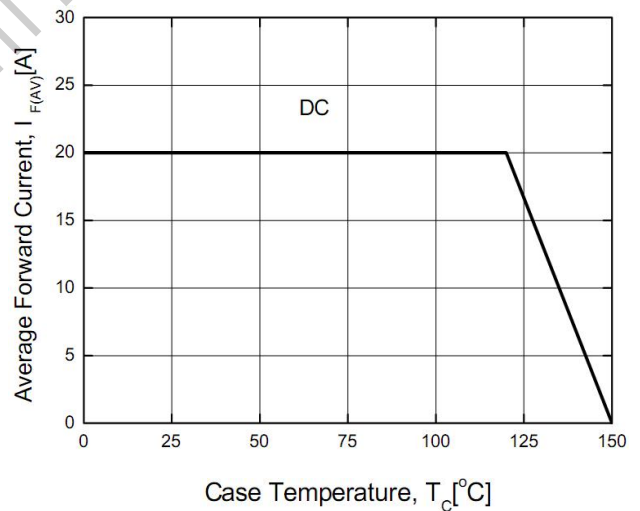
**Figure 2. Reverse Leakage Current**



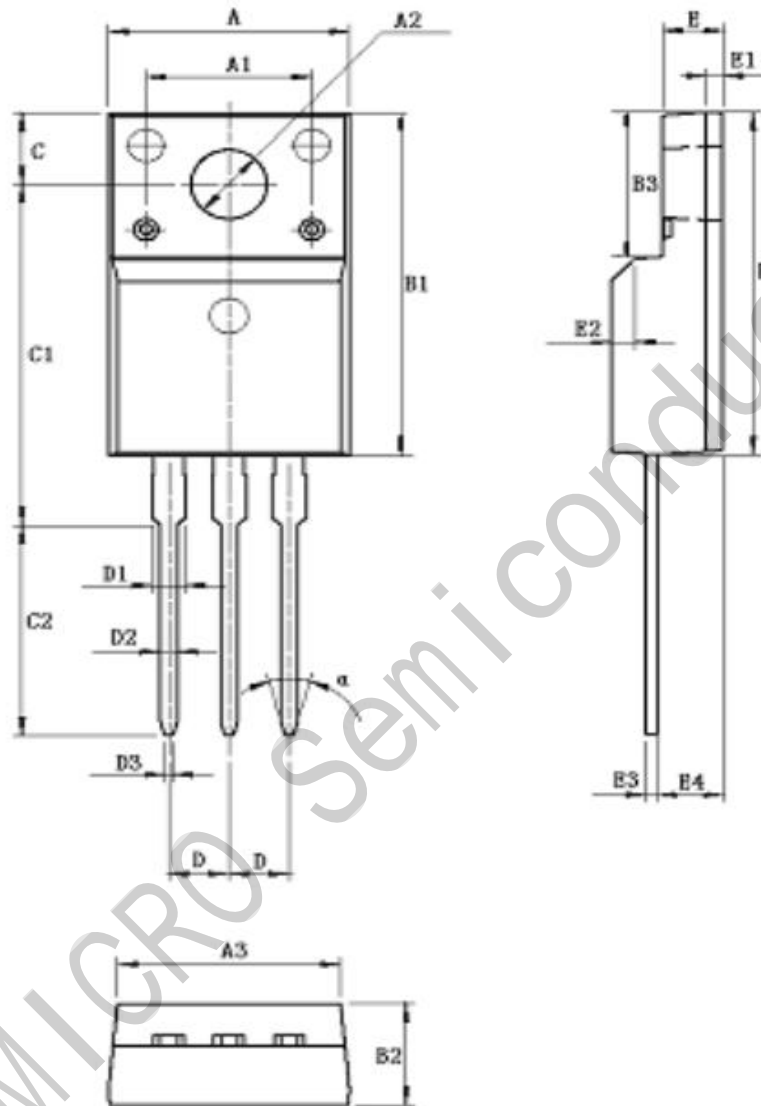
**Figure 3. Junction Capacitance**



**Figure 4. Power Derating**



### TO-220F Package Dimensions



UNIT: mm

| SYMBOL | min   | nom  | max   | SYMBOL | min  | nom     | max  |
|--------|-------|------|-------|--------|------|---------|------|
| A      | 9.80  |      | 10.60 | D      |      | 2.54    |      |
| A1     |       | 7.00 |       | D1     | 1.15 |         | 1.55 |
| A2     | 2.90  |      | 3.40  | D2     | 0.60 |         | 1.00 |
| A3     | 9.10  |      | 9.90  | D3     | 0.20 |         | 0.50 |
| B1     | 15.40 |      | 16.40 | E      | 2.24 |         | 2.84 |
| B2     | 4.35  |      | 4.95  | E1     |      | 0.70    |      |
| B3     | 6.00  |      | 7.40  | E2     |      | 1.0×45° |      |
| C      | 3.00  |      | 3.70  | E3     | 0.35 |         | 0.65 |
| C1     | 15.00 |      | 17.00 | E4     | 2.30 |         | 3.30 |
| C2     | 8.80  |      | 10.80 | α (度)  |      | 30°     |      |