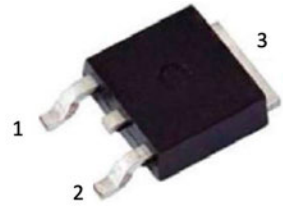
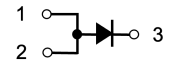


## Features

- High surge capacity
- Low forward voltage drop
- Guard ring for over voltage protection
- For use in low voltage, high frequency inverters free wheeling, and polarity protection application



Package: TO-252 (DPAK)



Schematic Diagram

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

| Parameter   | Symbol          | Value       | Unit               |
|---|-----------------|-------------|--------------------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$       | 45          | V                  |
| RMS Voltage   | $V_{RMS}$       | 32          | V                  |
| DC Blocking Voltage   | $V_{DC}$        | 45          | V                  |
| Average Forward Rectified Current @ $T_A=100^\circ\text{C}$                       | $I_{F(AV)}$     | 10          | A                  |
| Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load | $I_{FSM}$       | 150         | A                  |
| Typical Thermal Resistance <sup>1</sup>   | $R_{\theta JC}$ | 2.2         | $^\circ\text{C/W}$ |
| Operating Junction Temperature Range  | $T_J$           | -55 To +150 | $^\circ\text{C}$   |
| Storage Temperature Range   | $T_{STG}$       | -55 To +175 | $^\circ\text{C}$   |

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

| Parameter                    | Symbol | Test Conditions                         | Value | Unit |
|------------------------------|--------|---|-------|------|
| Forward Voltage <sup>1</sup> | $V_F$  | $I_F=10\text{A}, T_A=25^\circ\text{C}$  | 0.70  | V    |
|                              |        | $I_F=10\text{A}, T_A=125^\circ\text{C}$ | 0.57  | V    |
| Reverse Current              | $I_R$  | $V_R=V_{RRM}, T_A=25^\circ\text{C}$     | 0.10  | mA   |
|                              |        | $V_R=V_{RRM}, T_A=125^\circ\text{C}$    | 15.00 | mA   |

**Note:**

1. Pulse test: 300  $\mu\text{s}$  pulse width, duty cycle=1%

## Ratings and Characteristics Curves ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

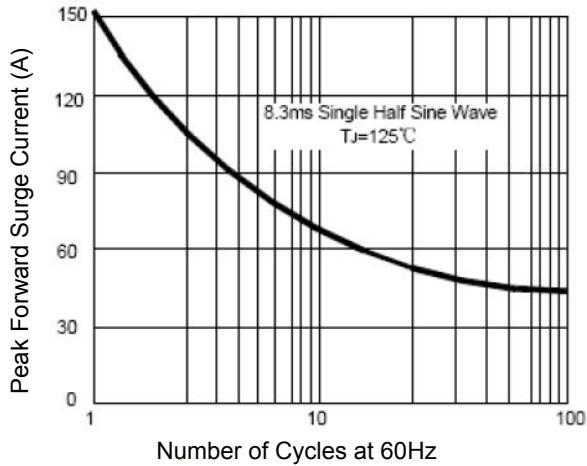


Figure 1. Peak Forward Surge Current

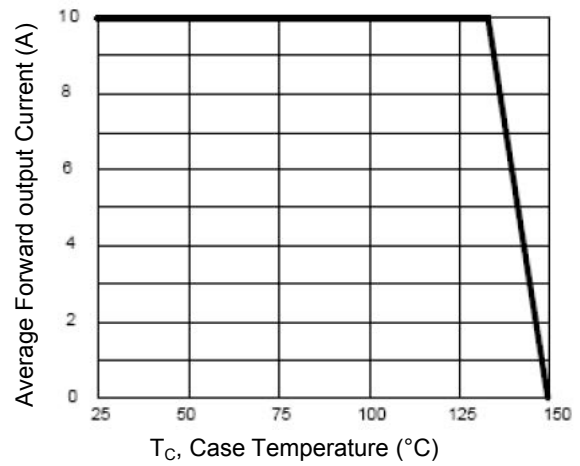


Figure 2. Forward Derating Curve

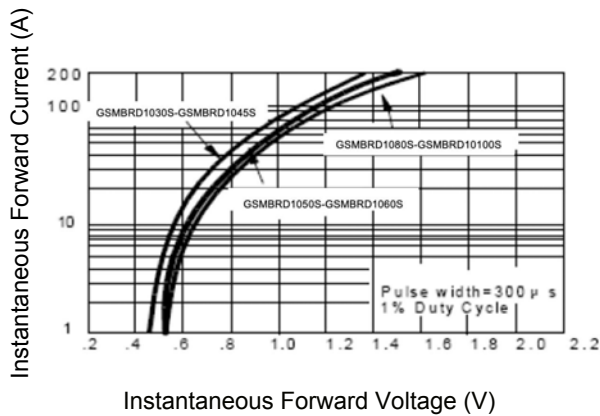


Figure 3. Typical Forward Characteristic

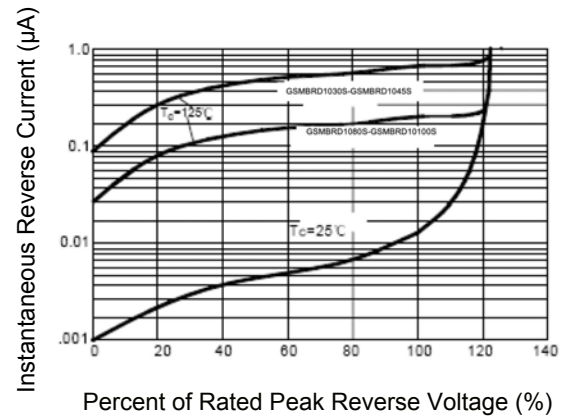
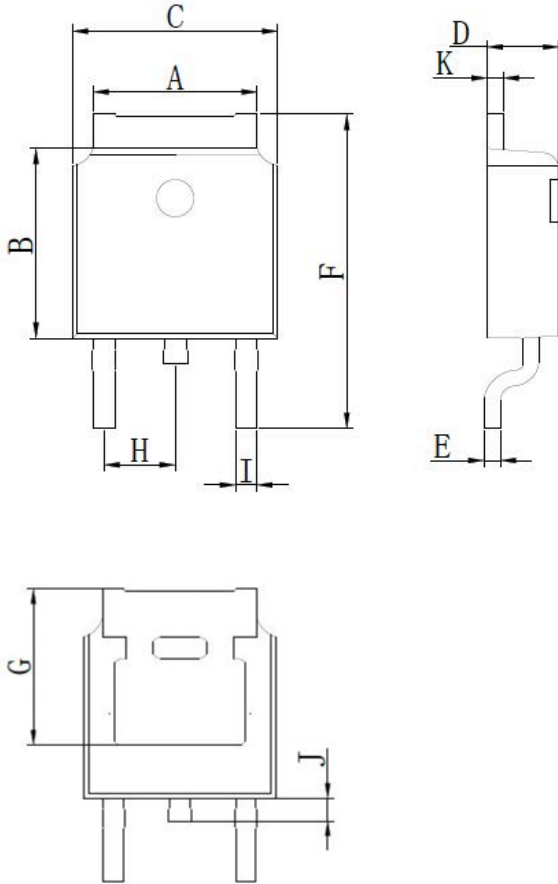


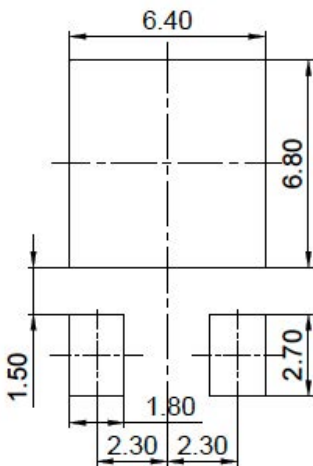
Figure 4. Typical Reverse Characteristic

## Package Outline Dimensions TO-252 (DPAK)



| Symbol | Dimensions in Millimeters |       |
|--------|---------------------------|-------|
|        | Min                       | Max   |
| A      | 5.05                      | 5.65  |
| B      | 5.80                      | 6.40  |
| C      | 6.25                      | 6.85  |
| D      | 2.20                      | 2.40  |
| E      | 0.40                      | 0.60  |
| F      | 9.71                      | 10.31 |
| G      | 5.05                      | 5.65  |
| H      | 2.10                      | 2.50  |
| I      | 0.70                      | 0.90  |
| J      | 0.50                      | 0.70  |
| K      | 0.40                      | 0.60  |

## Recommended Pad Layout



Unit: mm