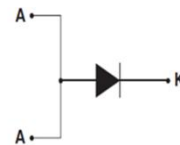


## Features

- FRED (Planar) wafer construction
- Ultrafast recovery time
- Low forward voltage drop, low power loss
- High efficiency
- Plastic package has underwriters Laboratory Flammability Classification 94V-0



Package: POWER QFN5x6



Schematic Diagram

## Mechanical Data

- Case: Epoxy, molded
- Weight: 0.1 grams (approximately)
- Lead yemperature for soldering purposes: 260°C max. for 10 sec
- 3000 units per reel

## Maximum Ratings & Electrical Characteristics

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

| Parameter  | Test Conditions                                 |                         | Symbol      | Value              | Unit             |
|--|---|-------------------------|-------------|--------------------|------------------|
| Maximum Repetitive Peak Reverse Voltage  |   |                         | $V_{RRM}$   | 400                | V                |
| Working Peak Reverse Voltage   |   |                         | $V_{RWM}$   | 400                | V                |
| Maximum DC Blocking Voltage  |   |                         | $V_{DC}$    | 400                | V                |
| Maximum Average Forward Rectified Current<br>@ $T_c=105^\circ\text{C}$                             |   |                         | $I_{F(AV)}$ | 10                 | A                |
| Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load per Diode        |   |                         | $I_{FSM}$   | 125                | A                |
| Voltage Rate of Change (rated $V_R$ )  |   |                         | $DV/dt$     | 10000              | V/ $\mu\text{s}$ |
| Operating Junction Temperature Range   |   |                         | $T_J$       | - 55 to+150        | $^\circ\text{C}$ |
| Storage Temperature Range  |   |                         | $T_{STG}$   | - 55 to+150        | $^\circ\text{C}$ |
| Maximum Reverse Recover Time<br>( $I_F=0.5\text{A}$ , $I_R=1.0\text{A}$ , $I_{rec}=0.25\text{A}$ ) |   |                         | $T_{rr}$    | 50                 | ns               |
| Maximum Instantaneous Forward Voltage per Leg  | $I_F=10\text{A}$                                | $T_C=25^\circ\text{C}$  | $V_F$       | 1.40               | V                |
|  | $I_F=10\text{A}$                                | $T_C=125^\circ\text{C}$ |             | 1.30               |                  |
| Maximum Reverse Current per Leg at Working Peak Reverse Voltage                                    |   | $T_J=25^\circ\text{C}$  | $I_R$       | 10                 | $\mu\text{A}$    |
|  |   | $T_J=100^\circ\text{C}$ |             | 500                | $\mu\text{A}$    |
| <b>Thermal Characteristics <math>T_A=25^\circ\text{C}</math> unless otherwise noted</b>            |   |                         |             |                    |                  |
| <b>Symbol</b>  | <b>Parameter</b>                                |                         | <b>Typ.</b> | <b>Unit</b>        |                  |
| $R_{\theta JC}$  | Thermal Resistance, Junction to Case per Leg    |                         | 2.5         | $^\circ\text{C/W}$ |                  |
| $R_{\theta JA}$  | Thermal Resistance, Junction to Ambient per Leg |                         | 50          | $^\circ\text{C/W}$ |                  |

**Note:** Pulse test:300us pulse width, duty cycle=2%

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

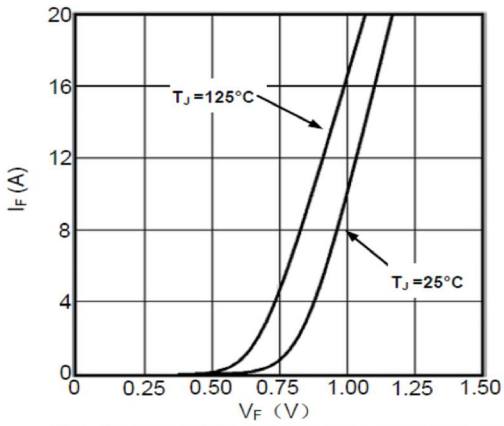


Fig1. Forward Voltage Drop vs Forward Current

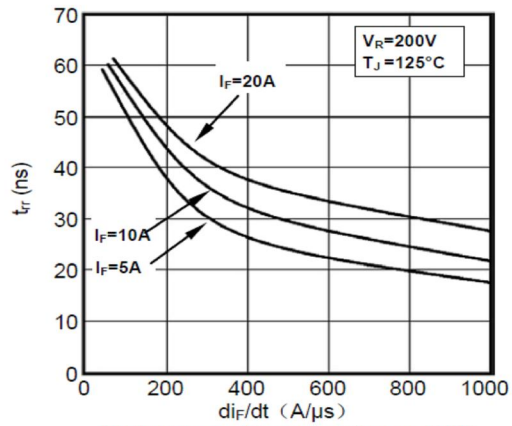


Fig2. Reverse Recovery Time vs  $di_F/dt$

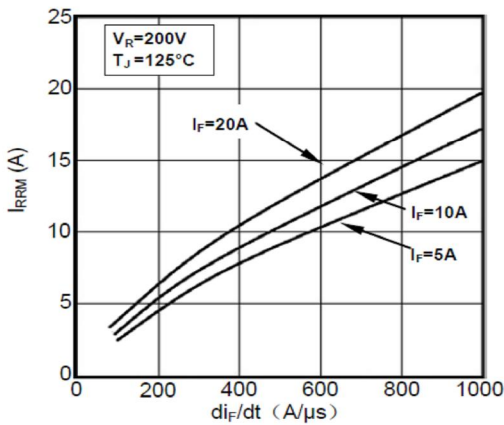


Fig3. Reverse Recovery Current vs  $di_F/dt$

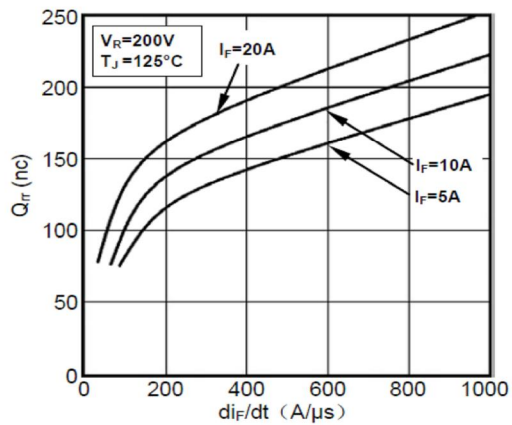


Fig4. Reverse Recovery Charge vs  $di_F/dt$

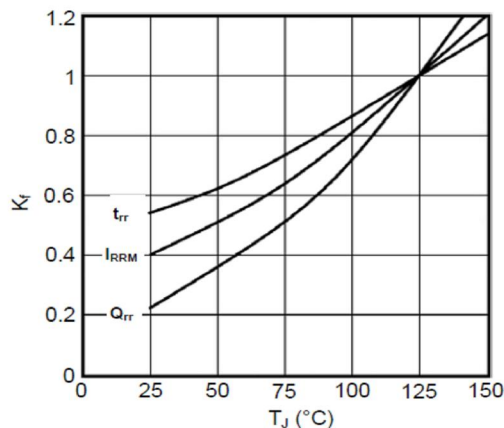


Fig5. Dynamic Parameters vs Junction Temperature

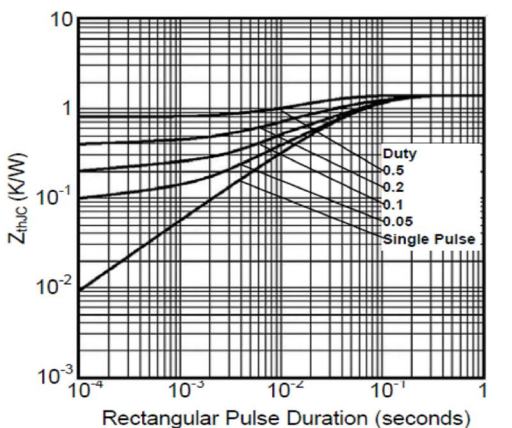


Fig6. Transient Thermal Impedance

**Package Outline Dimensions**

in millimeters

**POWER QFN 5x6**

