



PFC Device Corporation

PFS5L300

5A 300V MOS Schottky Rectifier

Major ratings and characteristics

| Characteristics | Values | Units |
|--------------------------------------|-------------|------------------|
| $I_{F(AV)}$ Rectangular Waveform | 5 | A |
| V_{RRM} | 300 | V |
| V_F @ 5A , $T_J=125^\circ\text{C}$ | 0.72 | V, typ. |
| T_J Operating Junction Temperature | -65 to +175 | $^\circ\text{C}$ |

Features

- Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 175°C Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

Typical Applications

Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications



1. Characteristics

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

| Parameter | Symbol | Values | Units |
|--|----------------|--------------|-----------------------------|
| DC Blocking Voltage | V_{RM} | 300 | Volts |
| Working Peak Reverse Voltage | V_{RWM} | | |
| Peak Repetitive Reverse Voltage | V_{RRM} | | |
| Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% duty cycle | I_o | 5 | Amps |
| Peak Forward Surge Current - 1/2 60hz | I_{FSM} | 150 | Amps |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I_{RRM} | 1 | Amps |
| Typical Thermal Resistance | $R\theta_{JC}$ | 22 | $^\circ\text{C} / \text{W}$ |
| Maximum Rate of Voltage Change (at Rated VR) | dv/dt | 10000 | $\text{V}/\mu\text{S}$ |
| Operating Junction Temperature | T_J | - 65 to +175 | $^\circ\text{C}$ |
| Storage Junction Temperature | T_{STG} | - 65 to +175 | |

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

| Parameter | Test Conditions | | Symbol | Typ. | Max. | Units |
|-------------------------------|-----------------|---------------------------|--------|------|------|---------------|
| Instantaneous Forward Voltage | IF = 5 A | $T_J = 25^\circ\text{C}$ | VF* | 0.85 | 0.89 | Volts |
| | | $T_J = 125^\circ\text{C}$ | | 0.72 | 0.77 | |
| Instantaneous Reverse Current | At V_{RM} | $T_J = 25^\circ\text{C}$ | IR* | --- | 50 | μA |
| | | $T_J = 125^\circ\text{C}$ | | --- | 20 | mA |

* Pulse width < 300 μS , Duty cycle < 2%



2. Characteristics Curves

Ratings and Characteristics Curves

(TA = 25°C unless otherwise specified)

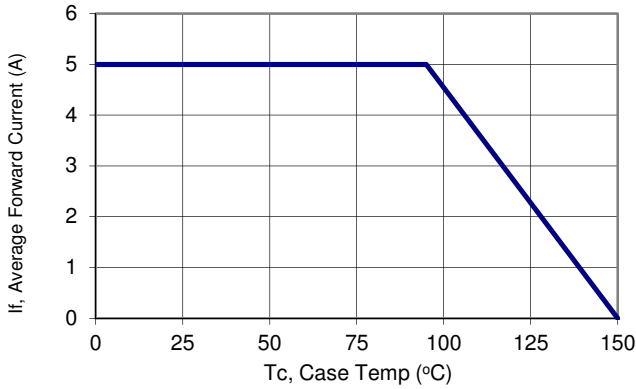


Figure 1: Current Derating, Case

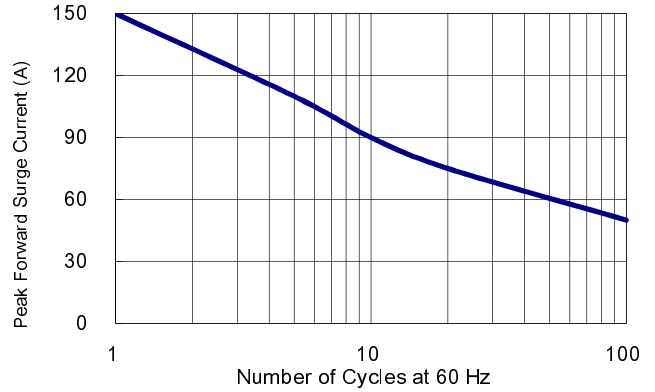


Figure 2: Maximum Repetitive Surge Current

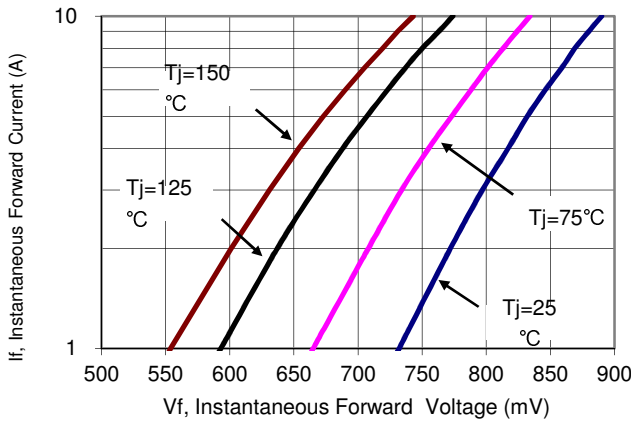


Figure 3: Typical Forward Voltage

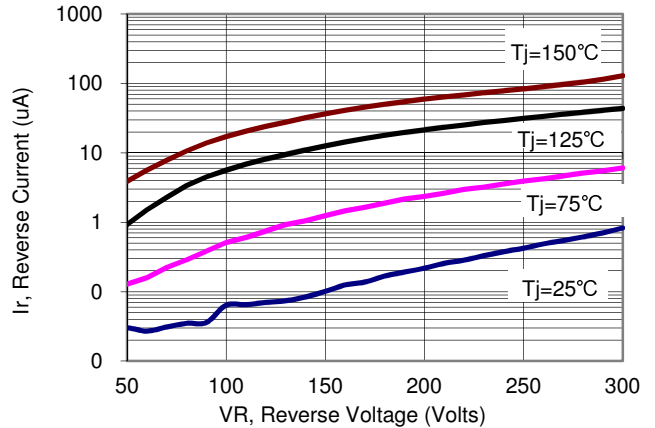


Figure 4: Typical Reverse Current

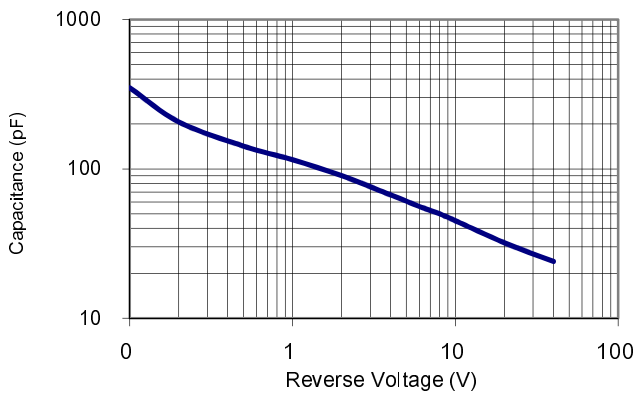
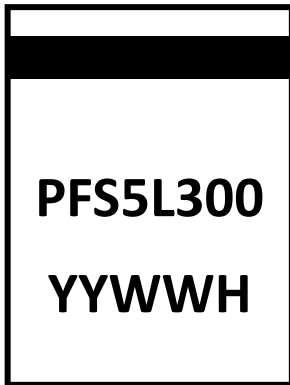


Figure 5: Typical Junction Capacitance



3. Marking information

Top Marking Rule



PFS5L300 = Product Type Marking Code

YYWW = Date Code

YY = Last two digits of year

WW = Week code

H = Halogen Free (N/A = common molding compound)

4. Package information

Package Outline Dimensions millimeters

DO-201AD

| Dim. | Min. | Max. |
|------|-------|-------|
| A1 | 25.4 | ----- |
| A2 | 25.40 | ----- |
| B | 7.20 | 9.50 |
| C | 1.20 | 1.30 |
| D | 4.80 | 5.30 |

All Dimensions in millimeter



5. Ordering information

| Part Number | Package | Delivery mode |
|-------------|----------|------------------------|
| PFS5L300 | DO-201AD | 800 pieces / ammo-pack |

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.04 ounces (1.1 grams) – DO-201AD

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