



PFR30V45CT
PFR30V45CTF
PFR30V45CTI
PFR30V45CTB

the following features are made possible in a single device:

Major ratings and characteristics

| Characteristics | Values | Units |
|----------------------------------|------------|------------|
| $I_{F(AV)}$ Rectangular Waveform | 30 | A |
| V_{RRM} | 45 | V |
| $V_F @ 15A, T_j=125^\circ C$ | 0.42 | V, typ |
| $T_j(\text{operating/storage})$ | -65 to 150 | $^\circ C$ |

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





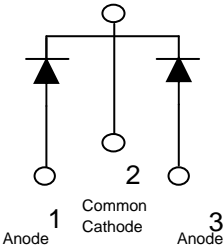
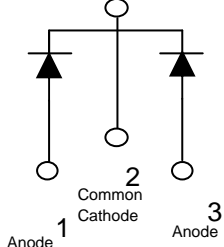
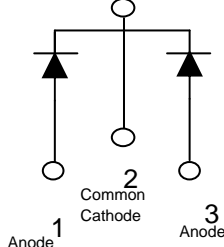
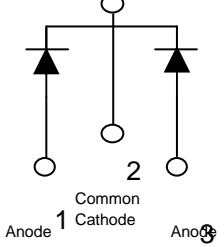
ELECTRICAL:

- * Ultra-Low Forward Voltage Drop
- * Reliable High Temperature Operation
- * Softest, fast switching capability
- * 150 $^\circ C$ Operating Junction Temperature
- * Lead Free Finish, RoHS Compliant

MECHANICAL:

- * Molded Plastic TO-220AB, TO-262, TO-263, and ITO-220 packages

Case Styles

| PFR30V45CT | PFR30V45CTF | PFR30V45CTI | PFR30V45CTB |
|---|---|--|---|
|  |  |  |  |
|  |  |  |  |
| TO-220AB | ITO-220 | TO-262 | TO-263 |



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| Maximum Ratings and Electrical Characteristics | | | | |
|--|-------------------|-------------------|---------------------|--------------|
| | SYMBOL | | | UNITS |
| DC Blocking Voltage | V_{RM} | | | Volts |
| Working Peak Reverse Voltage | V_{RWM} | 45 | | |
| Peak Repetitive Reverse Voltage | V_{RRM} | | | |
| Average Rectified Forward Current (Rated V_R -20Khz Square Wave) - 50% duty cycle | I_O | 30 | | Amps |
| Peak Forward Surge Current - 1/2 60hz | I_{FSM} | 250 | | Amps |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I_{RRM} | 2 | | Amps |
| Instantaneous Forward Voltage (per leg) $I_F = 15A; T_J = 25^\circ C$ $I_F = 15A; T_J = 125^\circ C$ | V_F^* | Typ --- --- | Max 0.45 0.42 | Volts |
| Maximum Instantaneous Reverse Current at Rated V_{RM} $T_J = 25^\circ C$ $T_J = 125^\circ C$ | I_R | Typ --- --- | Max 0.5 100 | mA mA |
| Maximum Rate of Voltage Change (at Rated V_R) | dv/dt | 10,000 | | V/uS |
| Maximum Thermal Resistance JC (per leg) Package = TO-220AB, TO-262, & TO-263 Package = ITO-220 | $R_{\theta_{JC}}$ | 2 4 | | $^\circ C/W$ |
| Operating and Storage Junction Temperature | T_J | -65 to +150 | | $^\circ C$ |

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



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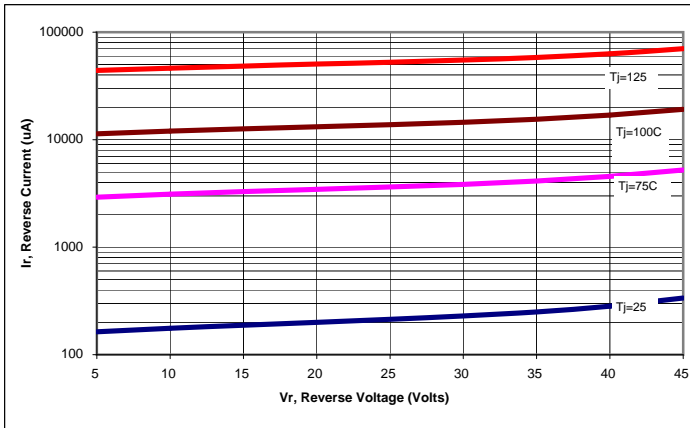


Figure 1: Typical Reverse Current

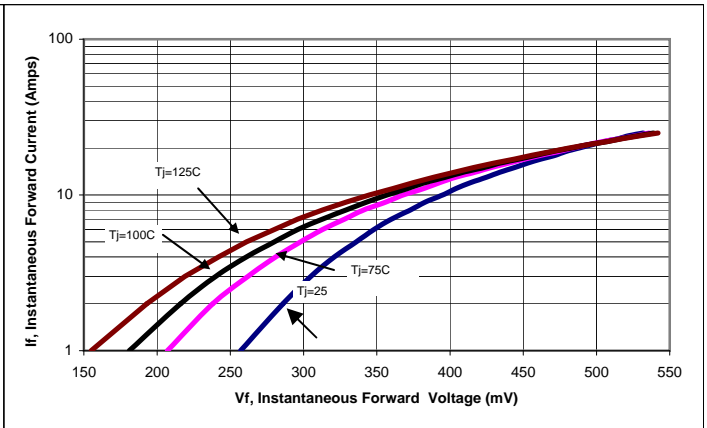


Figure 2: Typical Forward Voltage

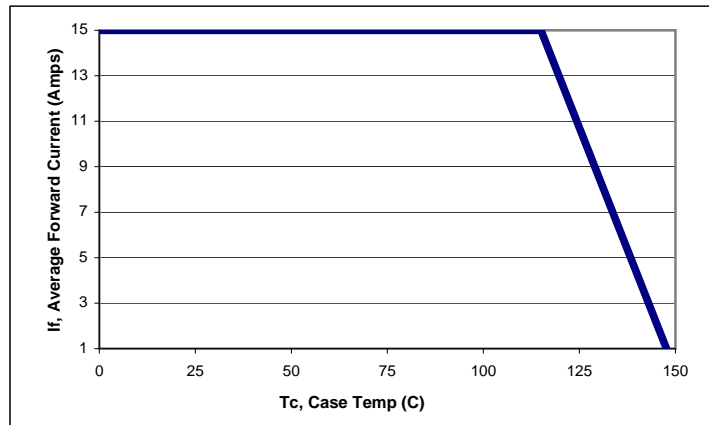


Figure 3: Current Derating, Case

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