



PFR40V45CT
PFR40V45CTF
PFR40V45CTI
PFR40V45CTB

the following features are made possible in a single device:

Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	40	A
V_{RRM}	45	V
$V_F@20A, T_j=125^\circ C$	0.44	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





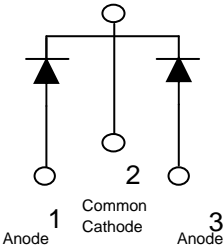
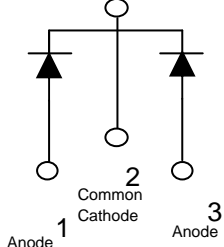
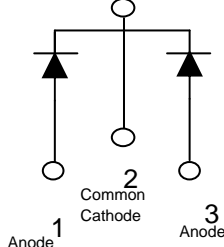
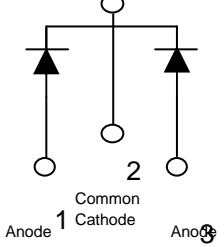
ELECTRICAL:

- * 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

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TO-220AB	ITO-220	TO-262	TO-263



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Maximum Ratings and Electrical Characteristics				
	SYMBOL			UNITS
DC Blocking Voltage Working Peak Reverse Voltage Peak Repetitive Reverse Voltage	V_{RM} V_{RWM} V_{RRM}	45		Volts
Average Rectified Forward Current (Rated V_R -20Khz Square Wave) - 50% duty cycle	I_O	40		Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	300		Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2		Amps
Instantaneous Forward Voltage (per leg) $I_F = 20A; T_J = 25^\circ C$ $I_F = 20A; T_J = 125^\circ C$	V_F^*	Typ --- ---	Max 0.50 0.46	Volts
Maximum Instantaneous Reverse Current at Rated V_{RM} $T_J = 25^\circ C$ $T_J = 125^\circ C$	I_R	Typ 0.5 25	Max 1.0 100	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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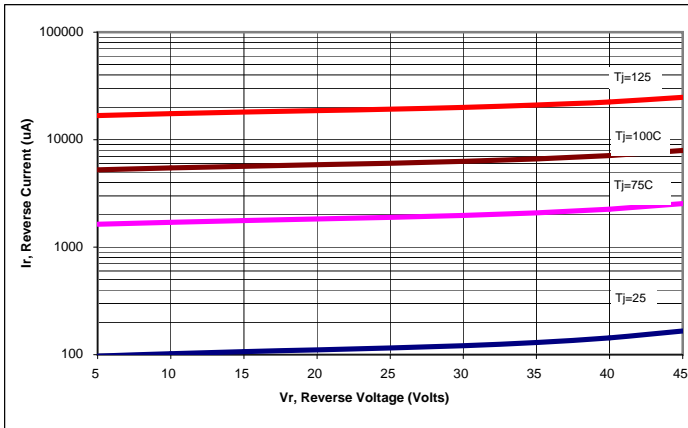


Figure 1: Typical Reverse Current

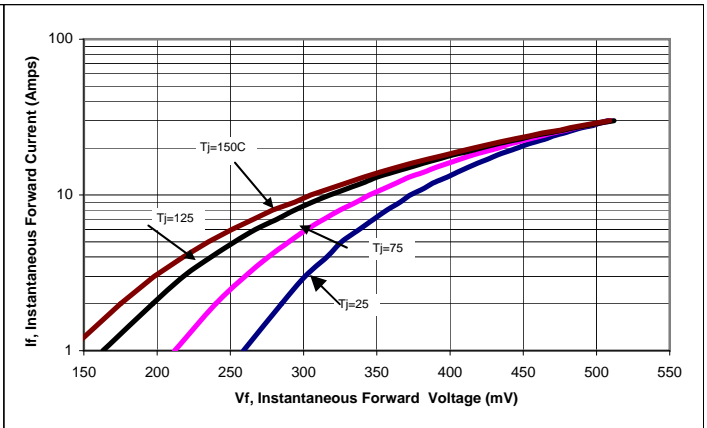


Figure 2: Typical Forward Voltage

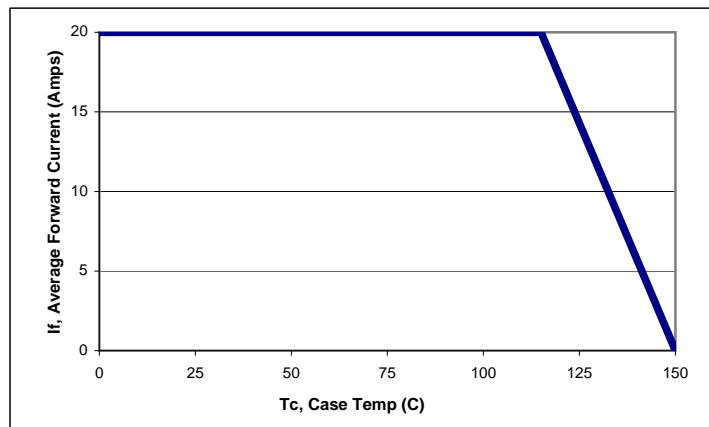


Figure 3: Current Derating, Case

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