



PFC Device Corporation

PFR40L45CT
PFR40L45CTF
PFR40L45CTI
PFR40L45CTB

40A 45V MOS Schottky Rectifier

Major ratings and characteristics

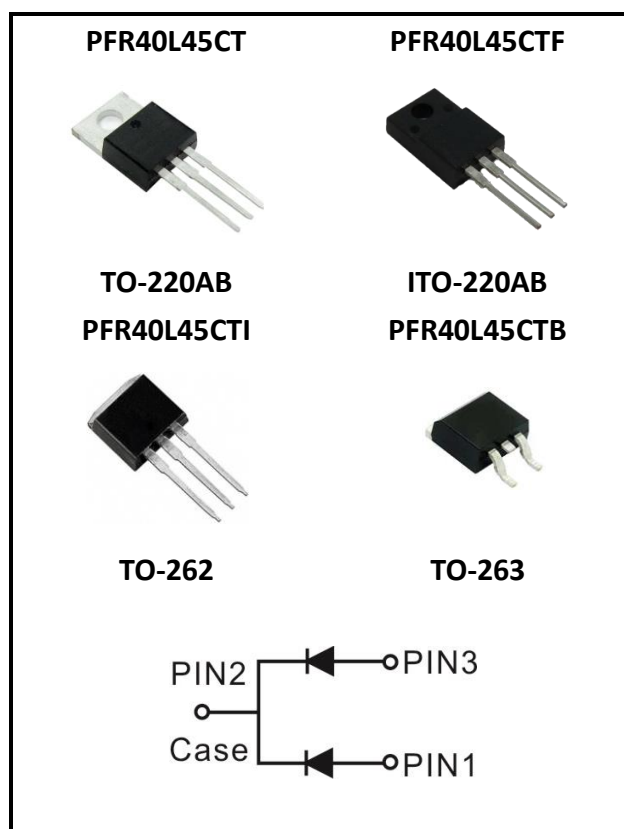
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	20 × 2	A
V_{RRM}	45	V
$V_F@ 20A, T_J=125^{\circ}C$	0.48	V, typ.
T_J Operating Junction Temperature	-65 to +150	$^{\circ}C$

Features

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

Typical Applications

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



Maximum Ratings Characteristics (T _A = 25°C unless otherwise specified)			
Parameter	Symbol	Values	Units
DC Blocking Voltage	V _{RM}	45	Volts
Working Peak Reverse Voltage	V _{RWM}		
Peak Repetitive Reverse Voltage	V _{RRM}		
Average Rectified Forward Current Per device (Rated VR-20Khz Square Wave) - 50% duty cycle	I _O	40	Amps
Peak Forward Surge Current - 1/2 60hz	I _{FSM}	280	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I _{RRM}	2	Amps
Typical Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB Package = TO-262 Package = TO-263	Rθ _{JC}	2 4 2.5 3	°C / W
Isolation voltage (ITO-220 only)	V _{AC}	1500	V
Maximum Rate of Voltage Change (at Rated V _R)	dv/dt	10000	V/uS
Operating Junction Temperature	T _J	- 65 to +150	°C
Storage Junction Temperature	T _{STG}	- 65 to +150	

Electrical Characteristics - (per leg) (T _A = 25°C unless otherwise specified)						
Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 20 A	T _J = 25 °C	VF*	----	0.52	Volts
		T _J = 125 °C		0.48	0.49	
Instantaneous Reverse Current	At V _{RM}	T _J = 25 °C	IR*	----	500	uA
		T _J = 125 °C		----	100	mA

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

2. Characteristics Curves

Ratings and Characteristics Curves

(TA = 25°C unless otherwise specified)

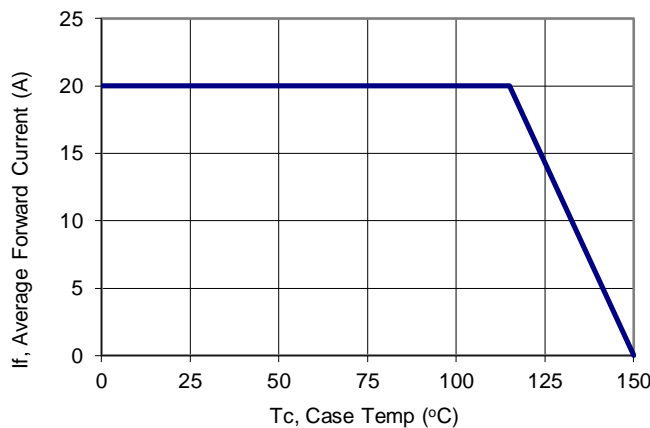


Figure 1: Current Derating, Case

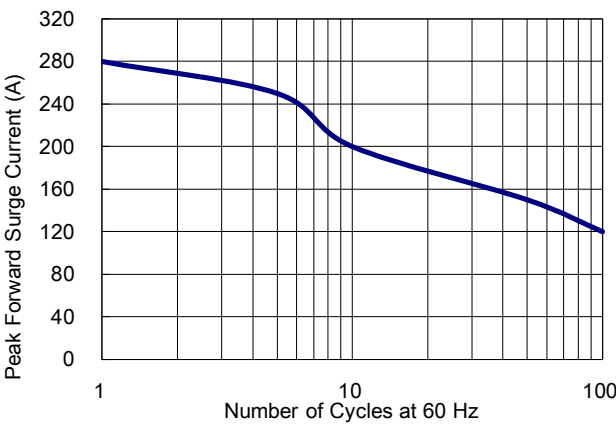


Figure 2: Maximum Repetitive Surge Current

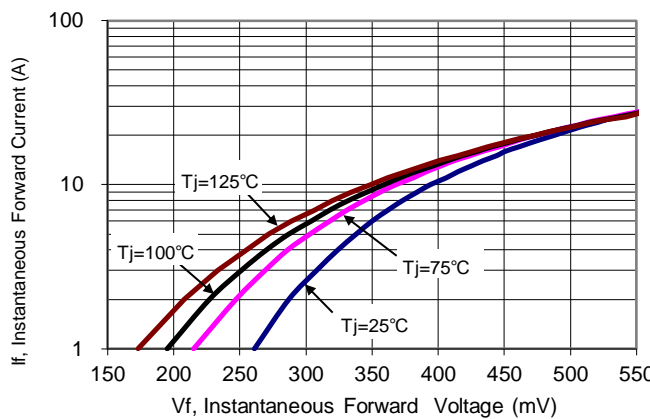


Figure 3: Typical Forward Voltage

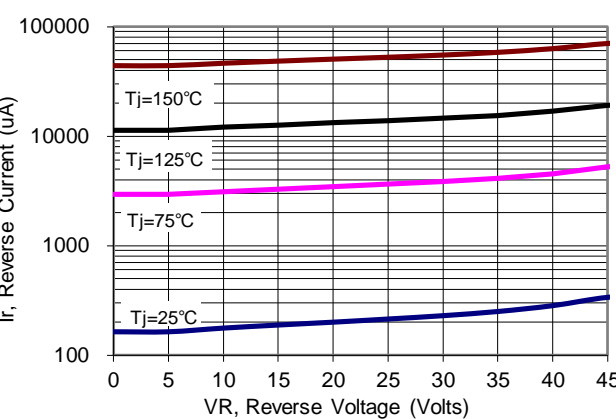


Figure 4: Typical Reverse Current

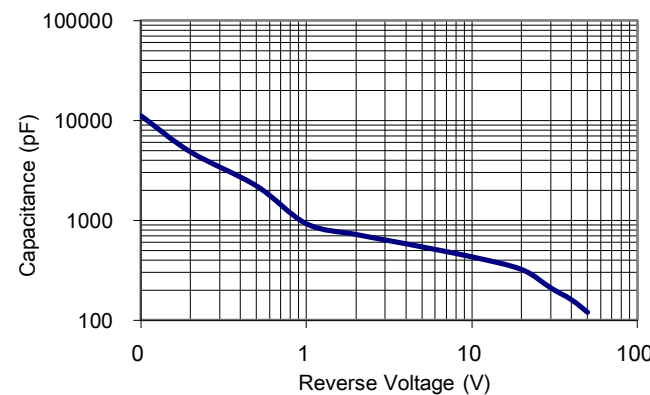


Figure 5: Typical Junction Capacitance

3. Marking information

Top Marking Rule

PFC PFR
40L45CT
YYWW ABSH

PFR40L45CT = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
AB = Assembly code
S = Series Number
H = Halogen Free (N/A = common molding compound)

PFC PFR
40L45CTF
YYWW ABSH

PFR40L45CTF = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
AB = Assembly code
S = Series Number
H = Halogen Free (N/A = common molding compound)

PFC PFR
40L45CTI
YYWW ABSH

PFR40L45CTI = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
AB = Assembly code
S = Series Number
H = Halogen Free (N/A = common molding compound)

PFC PFR
40L45CTB
YYWW ABSH

PFR40L45CTB = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
AB = Assembly code
S = Series Number
H = Halogen Free (N/A = common molding compound)

5. Ordering information

Part Number	Package	Delivery mode
PFR40L45CT	TO-220AB	50 pieces / tube
PFR40L45CTF	ITO-220AB	50 pieces / tube
PFR40L45CTI	TO-262	50 pieces / tube
PFR40L45CTB	TO-263	800 pieces / 13" diameter reel

Note: For Halogen Free molding compound, add "H" suffix to part number above.

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.07 ounces (1.96grams) - TO-220AB
0.06 ounces (1.74grams) - ITO-220AB
0.05 ounces (1.45 grams) - TO-262
0.04 ounces (1.16 grams) - TO-263
- Mounting Torque : Recommended 4~5 kg-cm.