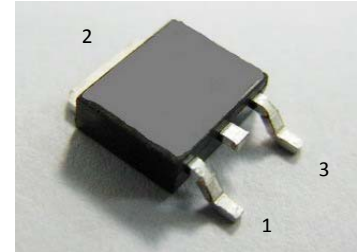




### Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10 × 2	A
$V_{RRM}$	45	V
$V_F@ 10 A, T_j=125^{\circ}C$	0.44	V , typ.
$T_J$ Operating Junction Temperature	-65 to +150	$^{\circ}C$

TO-252 ( D-PAK )



### Features

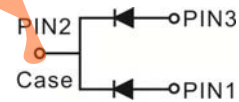
- \* Low Forward Voltage Drop
- \* Reliable High Temperature Operation
- \* Softest, fast switching capability
- \* 150 $^{\circ}C$  Operating Junction Temperature
- \* Lead Free Finish, RoHS Compliant

### Typical Applications

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

### Mechanical

- \* Molded Plastic Low profile TO-252 ( D-PAK )
- \* Device Weight : 0.01 ounces (0.3grams)



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

Parameter	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	$I_o$	20	Amps
Peak Forward Surge Current - 1/2 60Hz	$I_{FSM}$	180	Amps
Typical Thermal Resistance (per leg) Package = D-PAK	$R\theta_{JA}$	47	$^{\circ}C / W$
Maximum Rate of Voltage Change ( at Rated $V_R$ )	dv/dt	10000	V/uS
Operating Junction Temperature	$T_J$	- 65 to +150	$^{\circ}C$
Storage Junction Temperature	$T_{STG}$	- 65 to +150	



### Electrical Characteristics - (per leg) ( T<sub>A</sub> = 25°C unless otherwise specified )

Parameter	Test Conditions	Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 5 A	T <sub>J</sub> = 25°C	0.38	-----	Volts
	IF = 10 A		0.46	0.50	
	IF = 5 A	T <sub>J</sub> = 125°C	0.33	-----	
	IF = 10 A		0.44	0.47	
Instantaneous Reverse Current	At V <sub>RM</sub>	T <sub>J</sub> = 25°C	-----	500	uA
		T <sub>J</sub> = 125°C	-----	100	mA

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

### Patings and Characteristics Curves ( T<sub>A</sub> = 25°C unless otherwise specified )

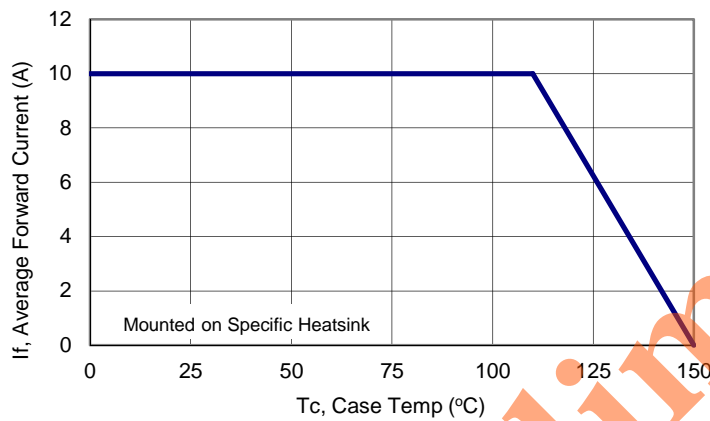


Figure 1: Current Derating, Case

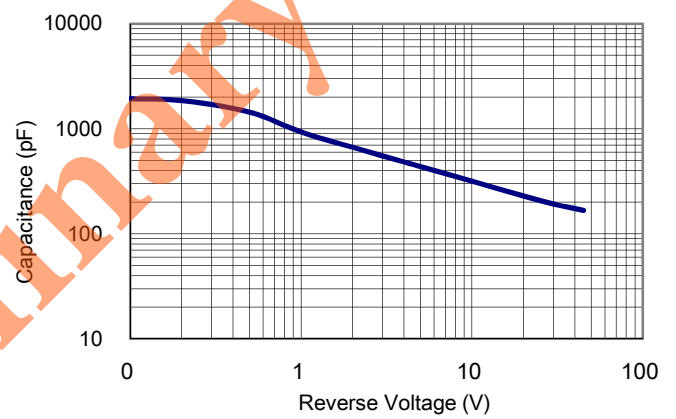


Figure 2: Typical Junction Capacitance

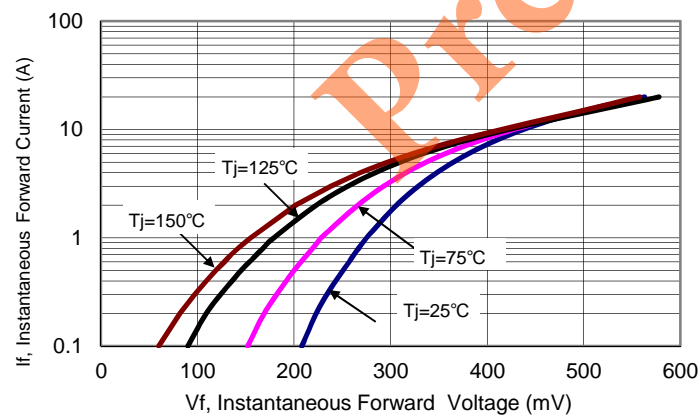


Figure 3: Typical Forward Voltage

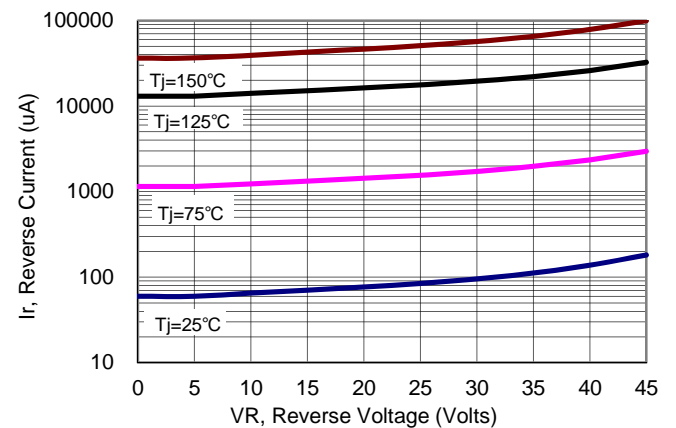
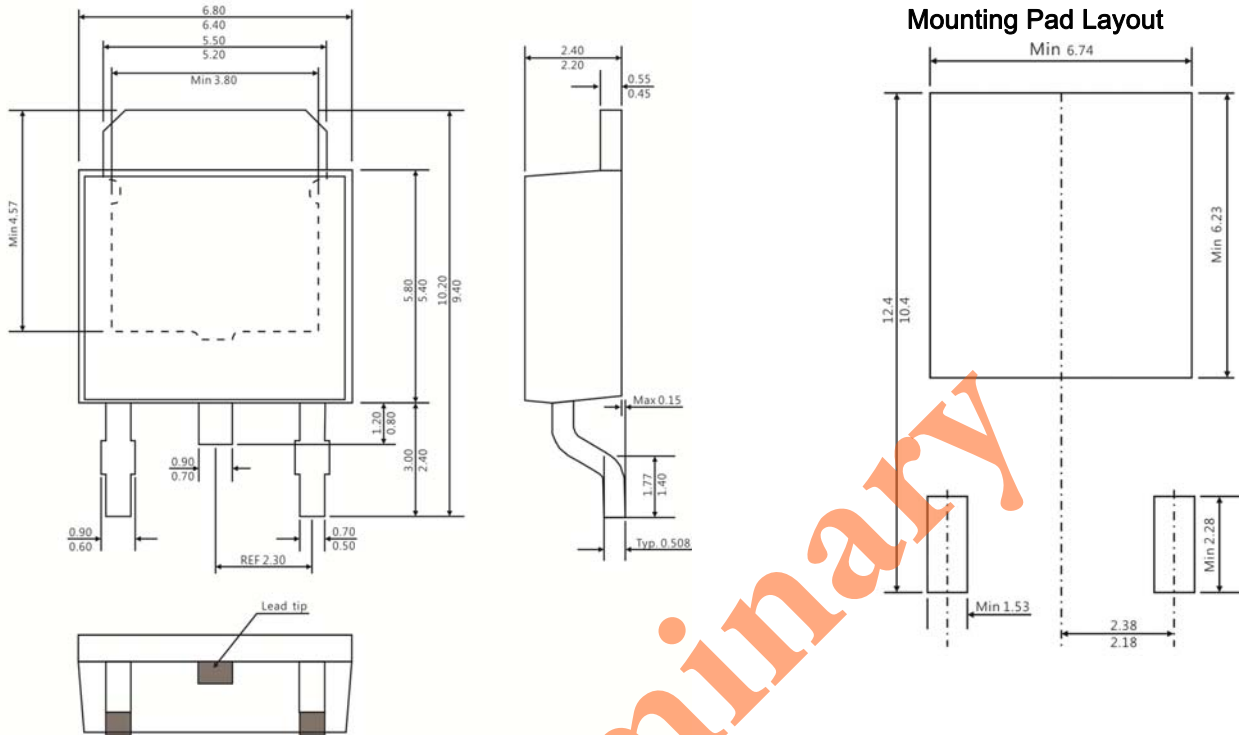


Figure 4: Typical Reverse Current



### Package Outline Dimensions millimeters



### Ordering information

Part Number	Package	Delivery mode
P20L45D	TO-252 ( D-PAK )	2500 pcs / 13" diameter reel

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

### Marking information

PFC P20L45D YYWW ABH
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- P20L45D = Product Type Marking Code
- YYWW = Date Code
- YY = Last two digits of year
- WW = Week code
- AB = Assembly code
- H = Halogen Free (N/A = common molding compound)

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