



PFC Device Corporation

PFS5V45

5A 45V MOS Schottky Rectifier

Major ratings and characteristics

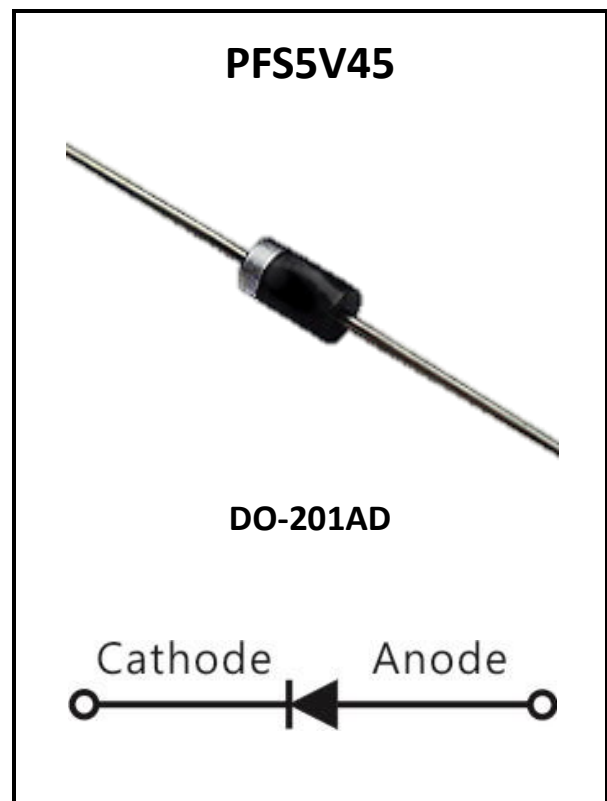
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	5	A
V_{RRM}	45	V
V_F @ 5A , $T_j=125^\circ\text{C}$	0.38	V, typ.
T_j Operating Junction Temperature	-65 to +150	$^\circ\text{C}$

Features

- Ultra Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150°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



1. Characteristics

Maximum Ratings Characteristics ($T_A = 25^{\circ}\text{C}$ 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 (Rated VR-20Khz Square Wave) - 50% duty cycle	I_o	5	Amps
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	200	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2	Amps
Typical Thermal Resistance	$R\theta_{JC}$	20	$^{\circ}\text{C} / \text{W}$
Maximum Rate of Voltage Change (at Rated VR)	dv/dt	10000	$\text{V}/\mu\text{S}$
Operating Junction Temperature	T_J	- 65 to +150	$^{\circ}\text{C}$
Storage Junction Temperature	T_{STG}	- 65 to +150	

Electrical Characteristics						
(T _A = 25 °C unless otherwise specified)						
Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 5 A	T _J = 25 °C	VF*	----	0.46	Volts
		T _J = 125 °C		0.38	0.40	
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

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

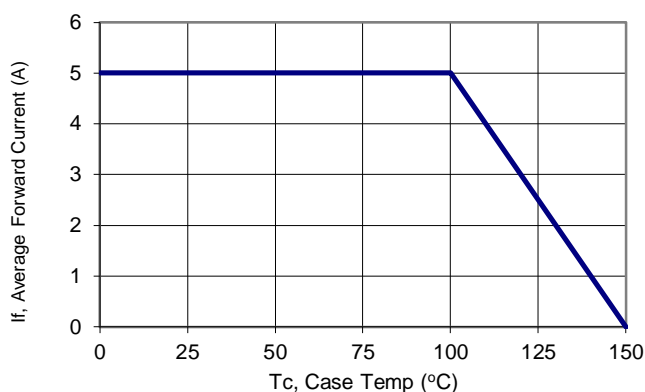


Figure 1: Current Derating, Case

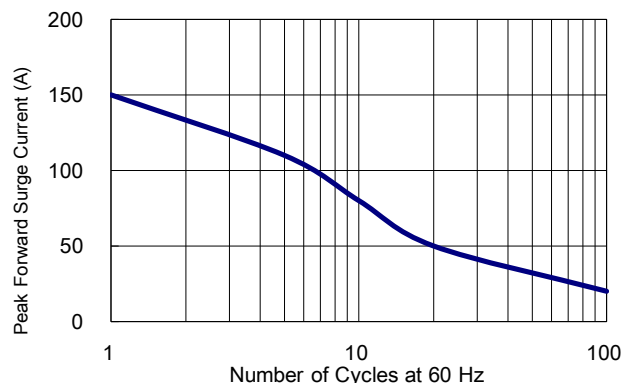


Figure 2: Maximum Repetitive Surge Current

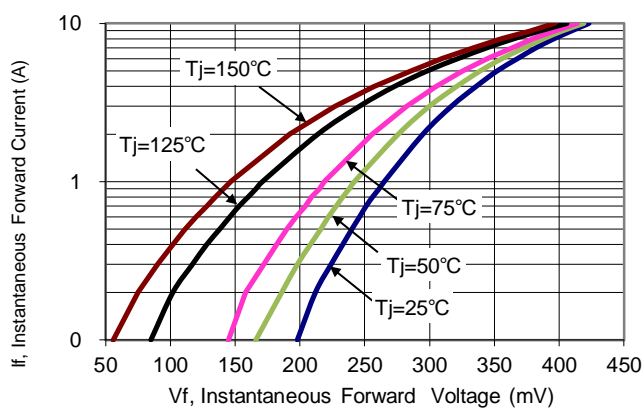


Figure 3: Typical Forward Voltage

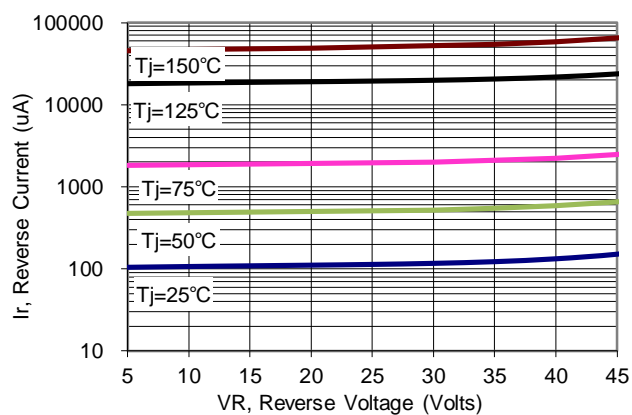


Figure 4: Typical Reverse Current

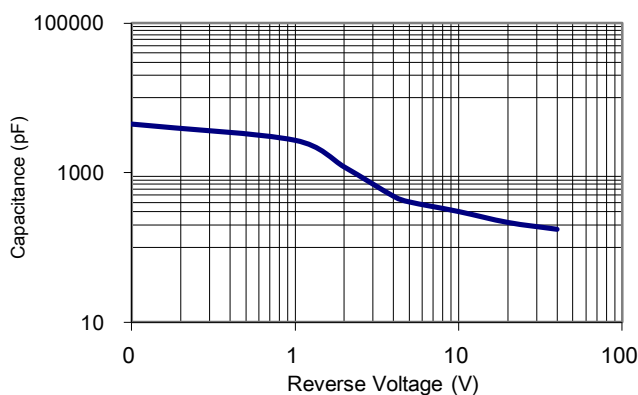
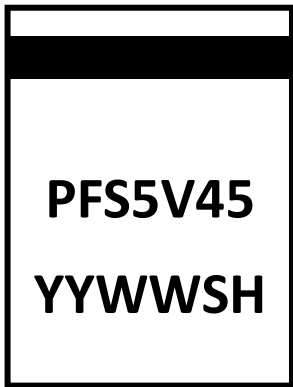


Figure 5: Typical Junction Capacitance



3. Marking information

Top Marking Rule



PFS5V45 = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
S = Series Number
H = Halogen Free (N/A = common molding compound)

4. Package information

Package Outline Dimensions millimeters

DO-201AD

A schematic diagram of a DO-201AD package. It shows a central rectangular body with a small black rectangle on its left side. Dimension lines with arrows indicate the following: A1 is the length from the left edge to the start of the black rectangle; B is the width of the black rectangle; A2 is the length from the end of the black rectangle to the right edge; C is the height of the package; and D is the thickness of the package.

Dim.	Min.	Max.
A1	25.4 typ.	
A2	25.4 typ.	
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
PFS5V45	DO-201AD	800 pieces / ammo-pack

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

Mechanical

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

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