



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
$V_F@ 5A, T_J=125^\circ C$	0.38	V, typ.
$T_J$ Operating Junction Temperature	-65 to +150	$^\circ C$

### Features

- Ultra 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



## 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	V/uS
Operating Junction Temperature	$T_J$	- 65 to +150	$^\circ\text{C}$
Storage Junction Temperature	$T_{STG}$	- 65 to +150	

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 5 A	$T_J = 25^\circ\text{C}$	VF*	----	0.46	Volts
		$T_J = 125^\circ\text{C}$		0.38	0.40	
Instantaneous Reverse Current	At $V_{RM}$	$T_J = 25^\circ\text{C}$	IR*	----	500	$\mu\text{A}$
		$T_J = 125^\circ\text{C}$		----	100	mA

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



2. Characteristics Curves

Ratings and Characteristics Curves

( TA = 25°C unless otherwise specified )

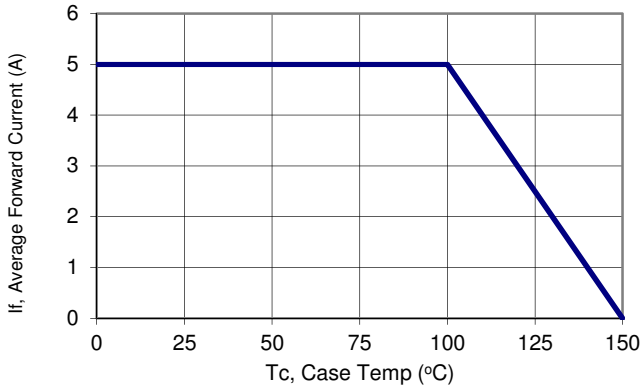


Figure 1: Current Derating, Case

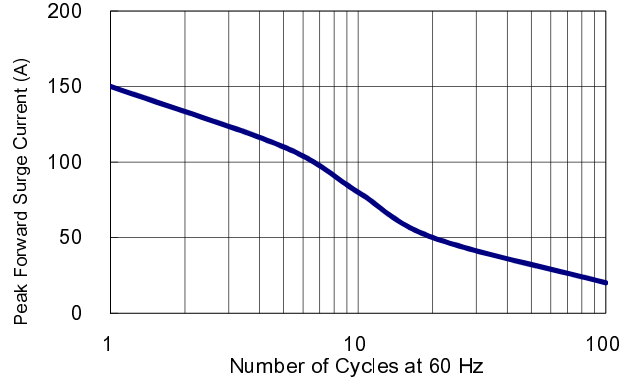


Figure 2: Maximum Repetitive Surge Current

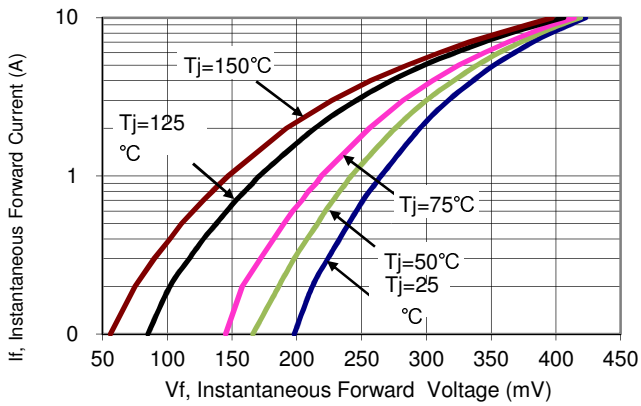


Figure 3: Typical Forward Voltage

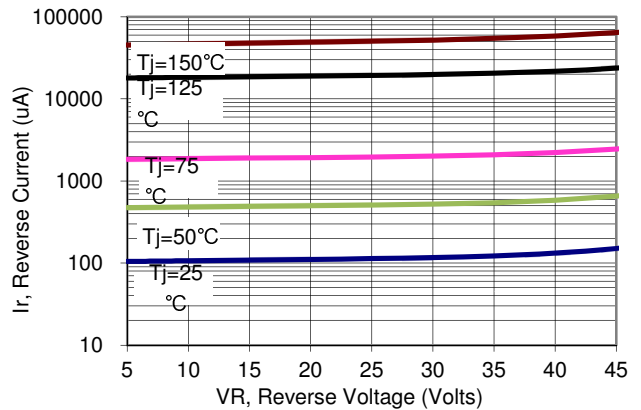


Figure 4: Typical Reverse Current

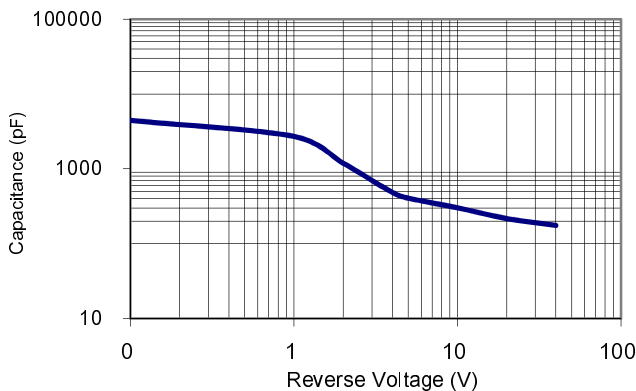
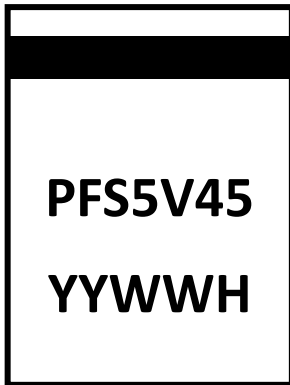


Figure 5: Typical Junction Capacitance

3. Marking information



Top Marking Rule



PFS5V45 = Product Type Marking Code

YYWW = Date Code

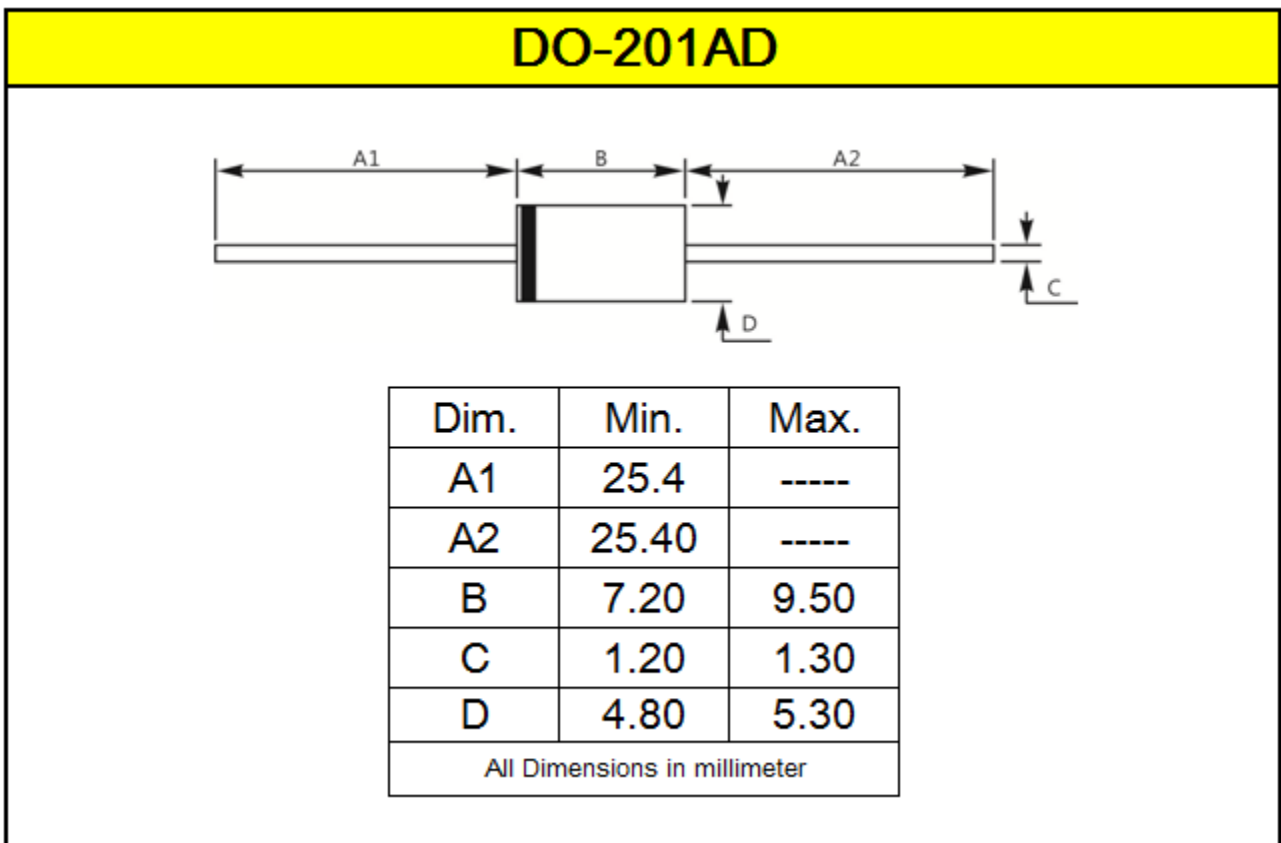
YY = Last two digits of year

WW = Week code

H = Halogen Free (N/A = common molding compound)

4. Package information

Package Outline Dimensions millimeters



5. Ordering information



Part Number	Package	Delivery mode
PFS5V45	DO-201AD	800 pieces / ammo-pack

## Mechanical

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

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