



PFC Device Corporation

P10200DS

10A 200V MOS Schottky Rectifier

Major ratings and characteristics

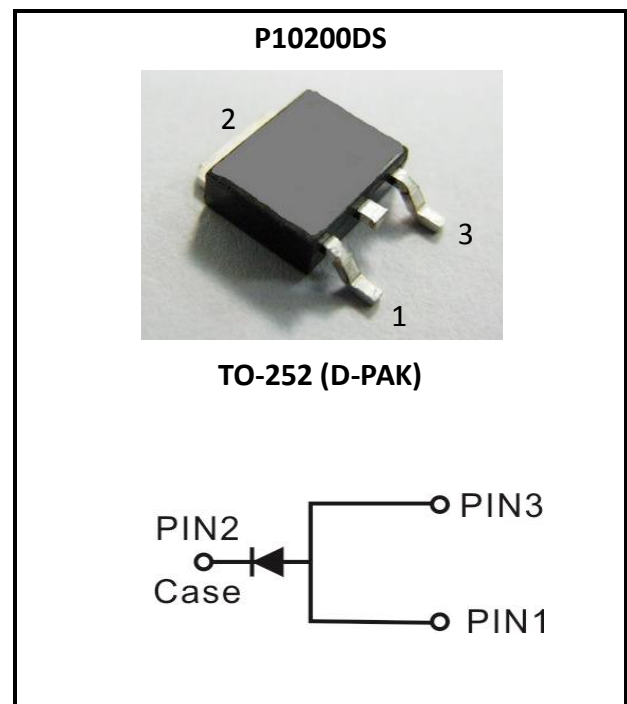
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10	A
V_{RRM}	200	V
$V_F@ 10A, T_j=125^\circ C$	0.76	V, typ.
T_j Operating Junction Temperature	-65 to +150	$^\circ C$

Features

- Low Forward Voltage Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150 $^\circ C$ Operating Junction Temperature
- Green Molding Compound (No Br, Sb)

Typical Applications

Device optimized for 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}	200	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current Per device	I_o	10	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle			
Peak Forward Surge Current - 1/2 60hz Note (1)	I_{FSM}	120	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	0.5	Amps
Typical Thermal Resistance (per leg) Package D-PAK TO-252	$R\theta_{JC}$	6	$^\circ\text{C} / \text{W}$
Maximum Rate of Voltage Change (at Rated V_R)	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 +175	

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Breakdown Voltage	$I_R = 0.5\text{mA}$	$T_J = 25^\circ\text{C}$	V_B^*	200 (min.)		V
Instantaneous Forward Voltage	$I_F = 10\text{A}$	$T_J = 25^\circ\text{C}$	V_F^*	----	0.95	Volts
		$T_J = 125^\circ\text{C}$		0.76	0.85	
Instantaneous Reverse Current	At V_{RM}	$T_J = 25^\circ\text{C}$	I_R^*	----	100	μA
		$T_J = 125^\circ\text{C}$		----	10	mA

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

Note (1) PIN 1 & PIN3 are connected during Forward Surge Current test.



2. Characteristics Curves

Ratings and Characteristics Curves

(TA = 25°C unless otherwise specified)

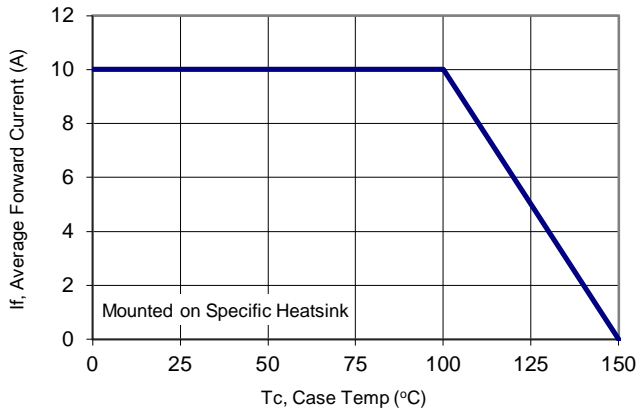


Figure 1: Current Derating, Case

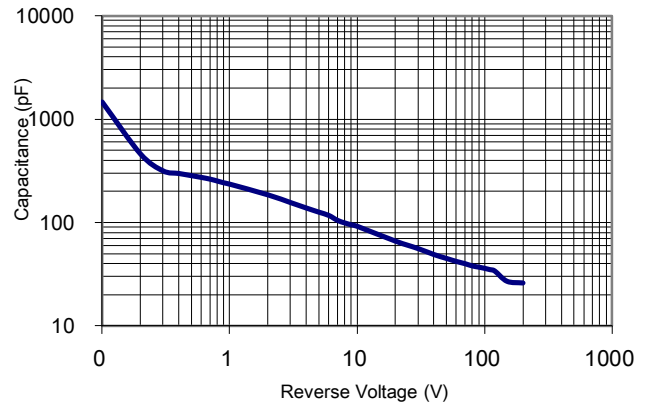


Figure 2: Typical Junction Capacitance

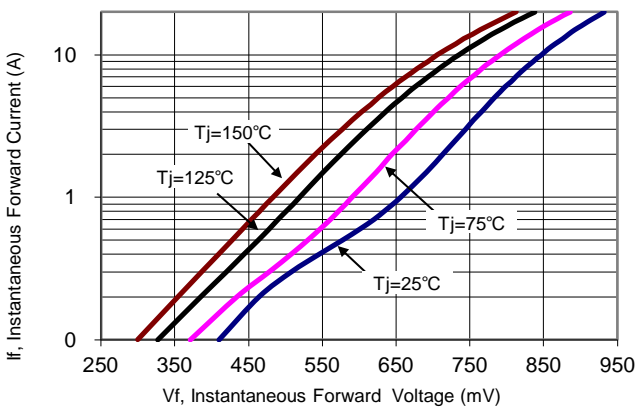


Figure 3: Typical Forward Voltage

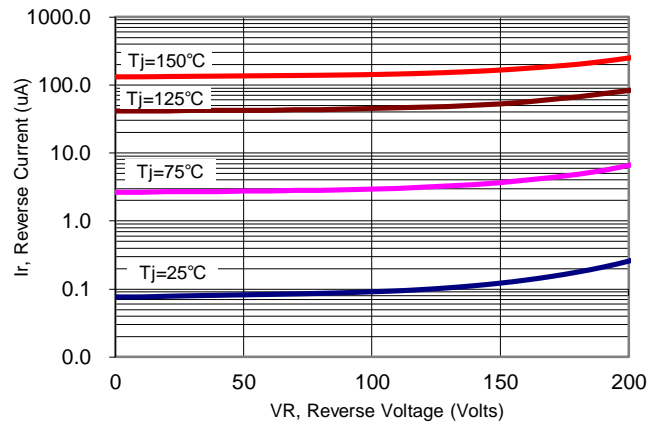
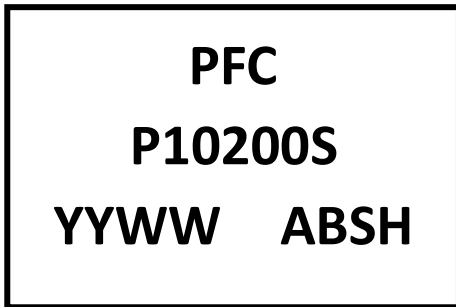


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule



P10200S = 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)

4. Package information

Package Outline Dimensions millimeters

TO-252 (DPAK)

Dim.	Min.	Max.
A	6.30	6.90
B	5.10	5.60
C	3.50	----
D	4.60	----
E	9.40	10.60
F	0.50	1.20
G	0.70	0.90
H	0.50	0.90
I	0.50	0.90
J	2.30 Ref.	
K	5.40	6.30
L	2.40	3.40
M	2.10	2.50
N	0.35	0.65
O	----	0.20
P	1.40	1.90

All Dimensions in millimeter



5. Ordering information

Part Number	Package	Delivery mode
P10200DS	TO-252 (D-PAK)	2500 pcs / 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 : 0.01 ounces (0.3grams) - TO-252 (D-PAK)

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