



PFC Device Corporation

**PT10L100ES**  
**PT10L100DS**

## 10A 100V HPTR® Single Schottky Rectifier

### Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10	A
$V_{RRM}$	100	V
$V_F@ 10A, T_J=125^\circ C$	0.66	V, typ.
$T_J$ Operating Junction Temperature	-40 to +150	$^\circ C$

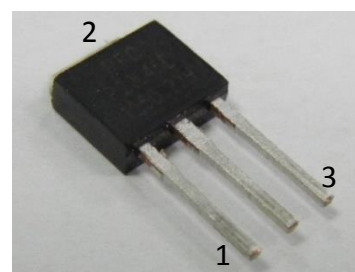
### Features

- Super Low Forward Voltage ( SLVF® ) Drop
- Reliable High Temperature Operation
- Softest, fast switching capability
- 150 $^\circ C$  Operating Junction Temperature
- Lead Free Finish, RoHS Compliant

### Typical Applications

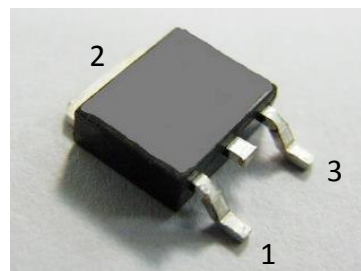
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

PT10L100ES

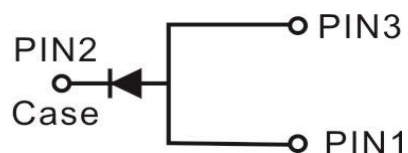


TO-251 (I-PAK)

PT10L100DS



TO-252 (D-PAK)



## 1. Characteristics

### Maximum Ratings Characteristics

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

Parameter	Symbol	Values	Units
DC Blocking Voltage	$V_{RM}$	100	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	$I_{FSM}$	180	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	2	Amps
Typical Thermal Resistance (per leg) Package = I-PAK TO-251 Package =D-PAK TO-252	$R\theta_{JC}$	6	$^{\circ}\text{C} / \text{W}$
		6	
Maximum Rate of Voltage Change ( at Rated $V_R$ )	$dv/dt$	10000	V/uS
Operating Junction Temperature	$T_J$	- 40 to +150	$^{\circ}\text{C}$
Storage Junction Temperature	$T_{STG}$	- 40 to +150	

### Electrical Characteristics - (per leg)

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

Parameter	Test Conditions		Symbol	Typ.	Max.	Units
Instantaneous Forward Voltage	IF = 3 A	T <sub>J</sub> = 25 °C	VF*	0.52	-----	Volts
	IF = 5 A			0.57	-----	
	IF = 10 A			0.73	0.79	
	IF = 3 A	T <sub>J</sub> = 125 °C		0.47	-----	
	IF = 5 A			0.53	-----	
	IF = 10 A			0.66	0.69	
Instantaneous Reverse Current	VR = 70V	T <sub>J</sub> = 25 °C	IR*	1.6	-----	uA
	VR = 100V			3	100	uA
	VR = 70V	T <sub>J</sub> = 125 °C		2.5	-----	mA
	VR = 100V			3.5	30	mA
* Pulse width < 300 uS, Duty cycle < 2%						

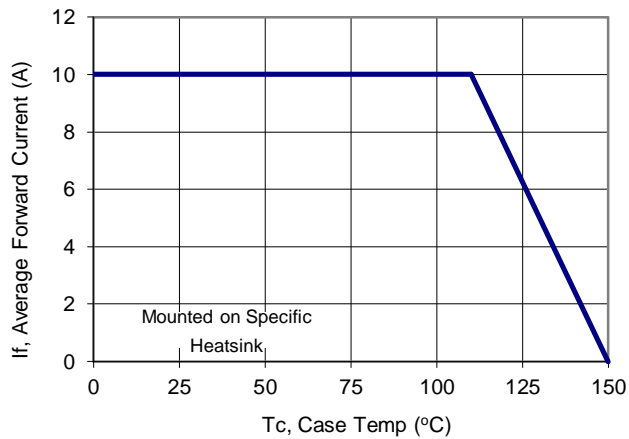
\* Pulse width < 300 uS, Duty cycle < 2%



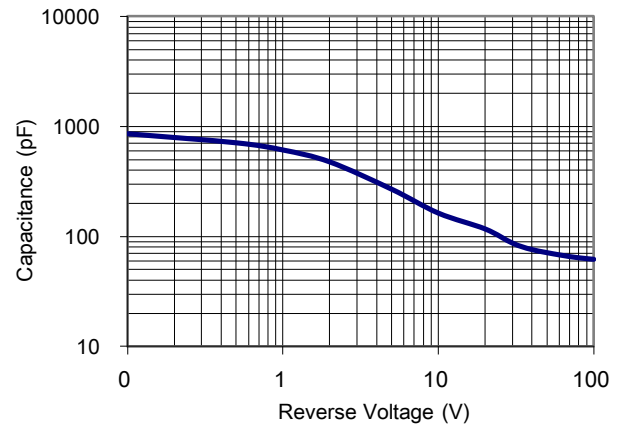
## 2. Characteristics Curves

### Ratings and Characteristics Curves

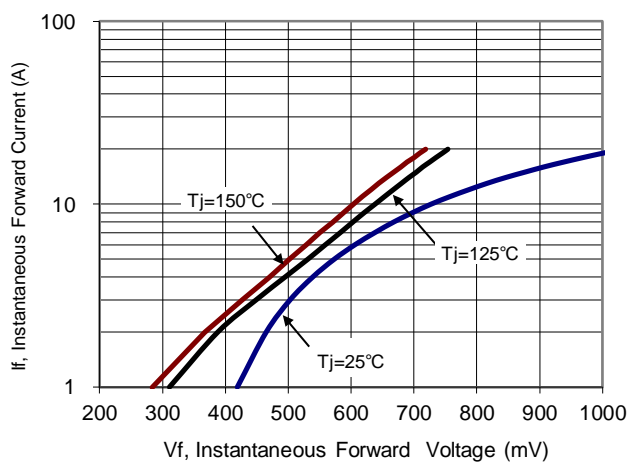
(  $T_A = 25^{\circ}\text{C}$  unless otherwise specified )



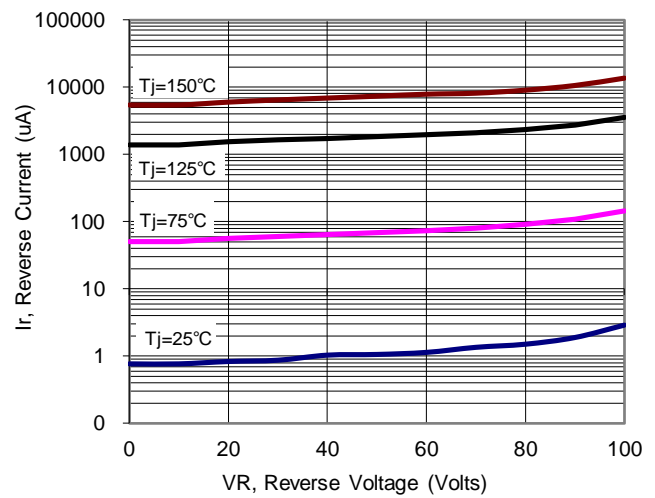
**Figure 1: Current Derating, Case**



**Figure 2: Typical Junction Capacitance**



**Figure 3: Typical Forward Voltage**



**Figure 4: Typical Reverse Current**



### 3. Marking information

#### Top Marking Rule

**PFC**  
**PT10L100S**  
**YYWW    ABSH**

PT10L100S = Product Type Marking Code (TO-251)  
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)

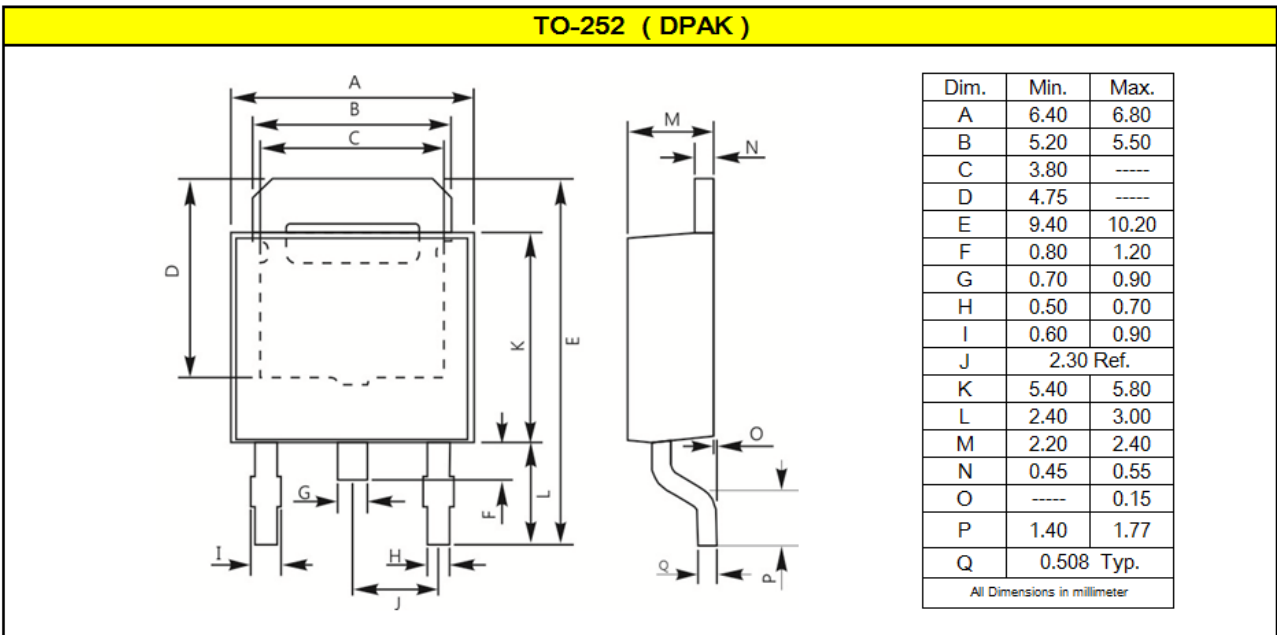
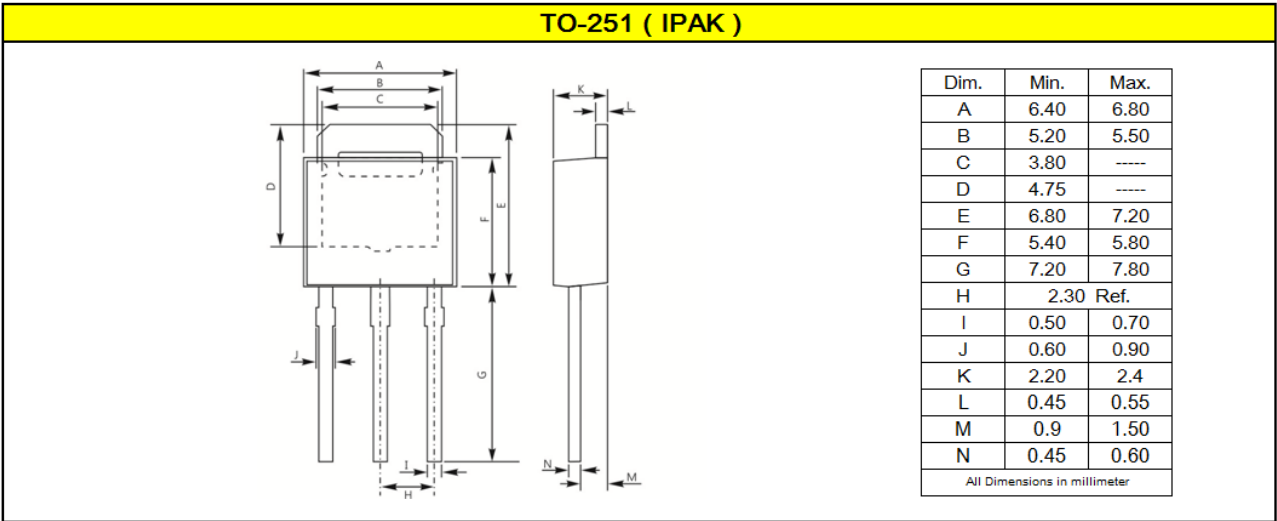
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4. Package information

Package Outline Dimensions    millimeters



## 5. Ordering information

Part Number	Package	Delivery mode
PT10L100ES	TO-251 (I-PAK)	75 pieces / tube
PT10L100DS	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-251 (I-PAK)  
0.01 ounces (0.3grams) - TO-252 (D-PAK)

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