



PFC Device Corporation

PT10L120ES
PT10L120DS

10A 120V HPTR® Single Schottky Rectifier

Major ratings and characteristics

Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	10	A
V_{RRM}	120	V
$V_F@ 10A, T_J=125^\circ C$	0.67	V, typ.
T_J Operating Junction Temperature	-40 to +150	$^\circ C$

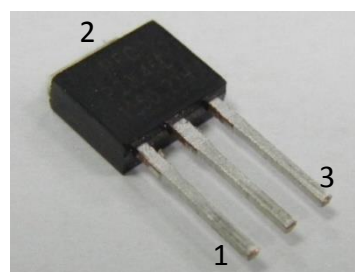
Features

- 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

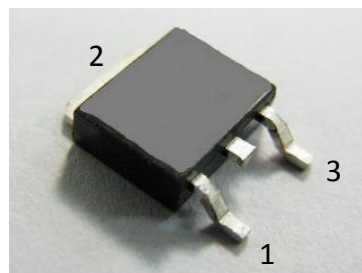
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

PT10L120ES

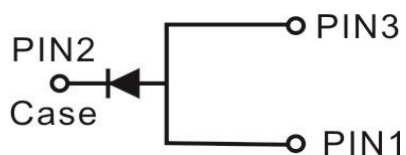


TO-251 (I-PAK)

PT10L120DS



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}	120	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 _J = 25 °C	VF*	0.58	-----	Volts
	IF = 5 A			0.66	-----	
	IF = 10 A			0.86	0.90	
	IF = 3 A	T _J = 125 °C		0.51	-----	
	IF = 5 A			0.58	-----	
	IF = 10 A			0.67	0.71	
Instantaneous Reverse Current	VR = 90V	T _J = 25 °C	IR*	1.6	-----	uA
	VR = 120V			4.4	100	uA
	VR = 90V	T _J = 125 °C		2.3	-----	mA
	VR = 120V			4.7	30	mA

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



2. Characteristics Curves

Ratings and Characteristics Curves

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

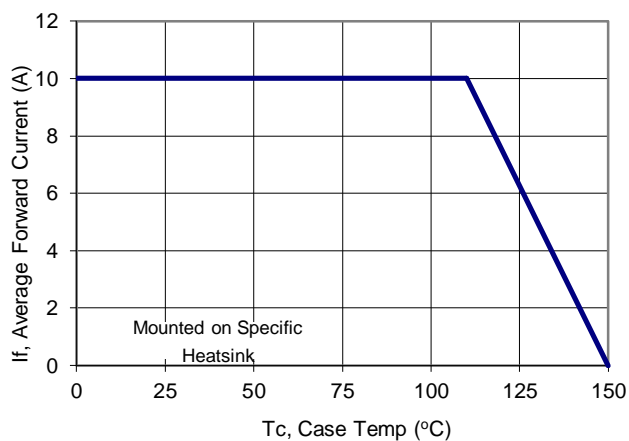


Figure 1: Current Derating, Case

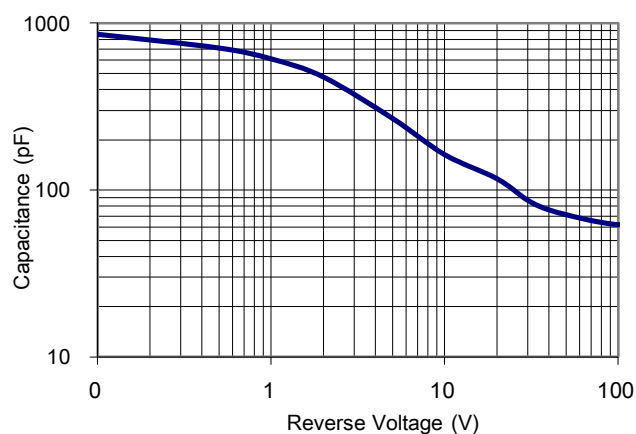


Figure 2: Typical Junction Capacitance

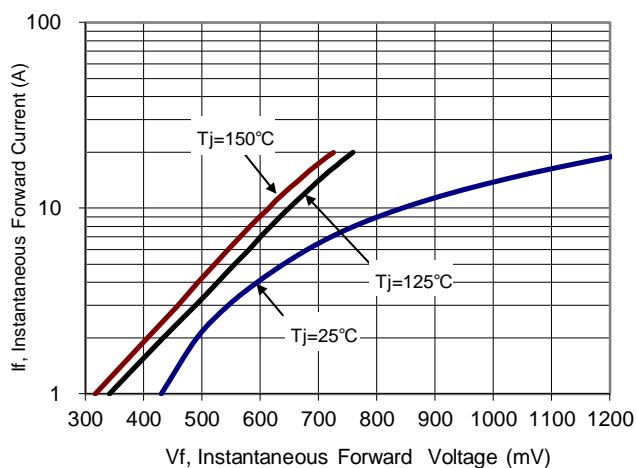


Figure 3: Typical Forward Voltage

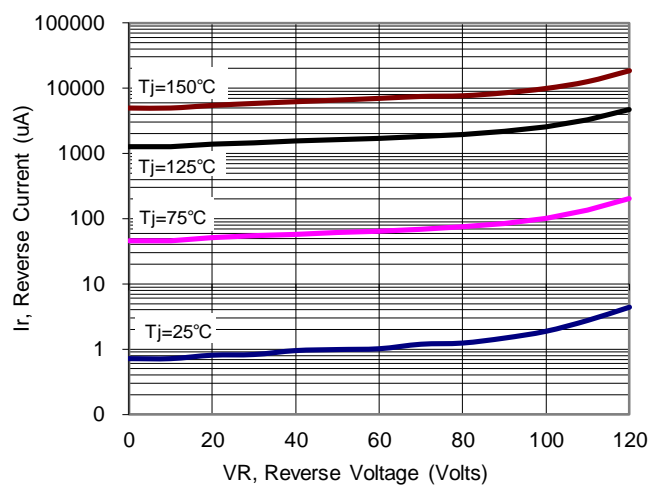


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule

PFC
PT10L120S
YYWW ABSH

PT10L120S = 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)

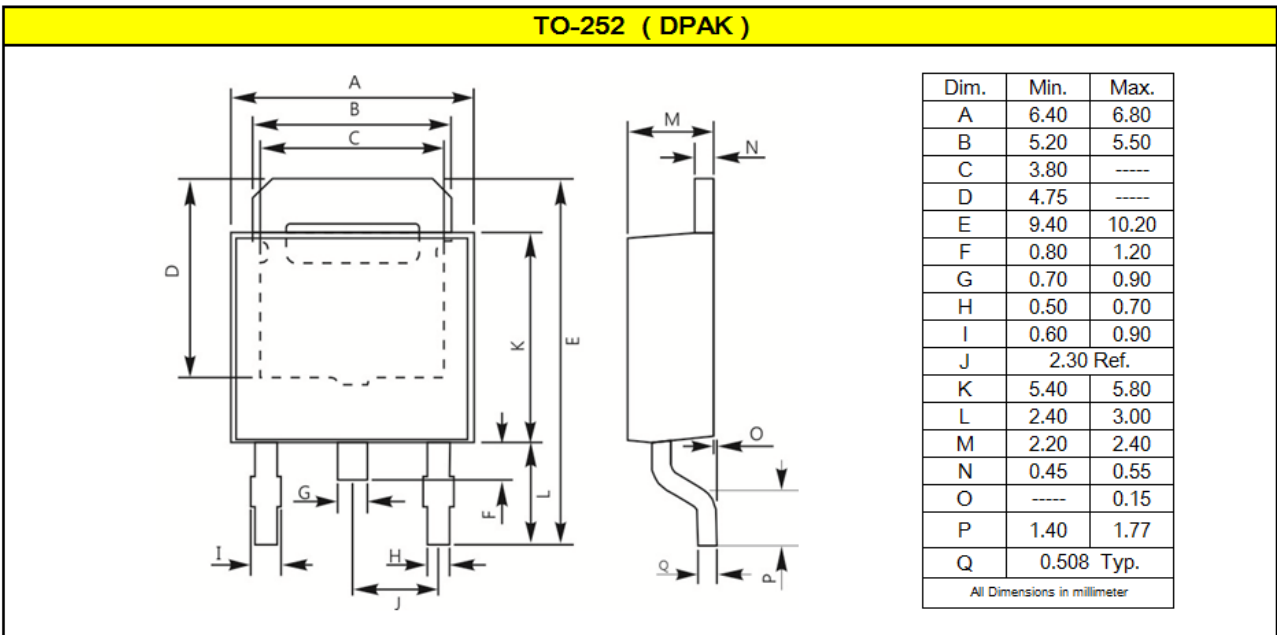
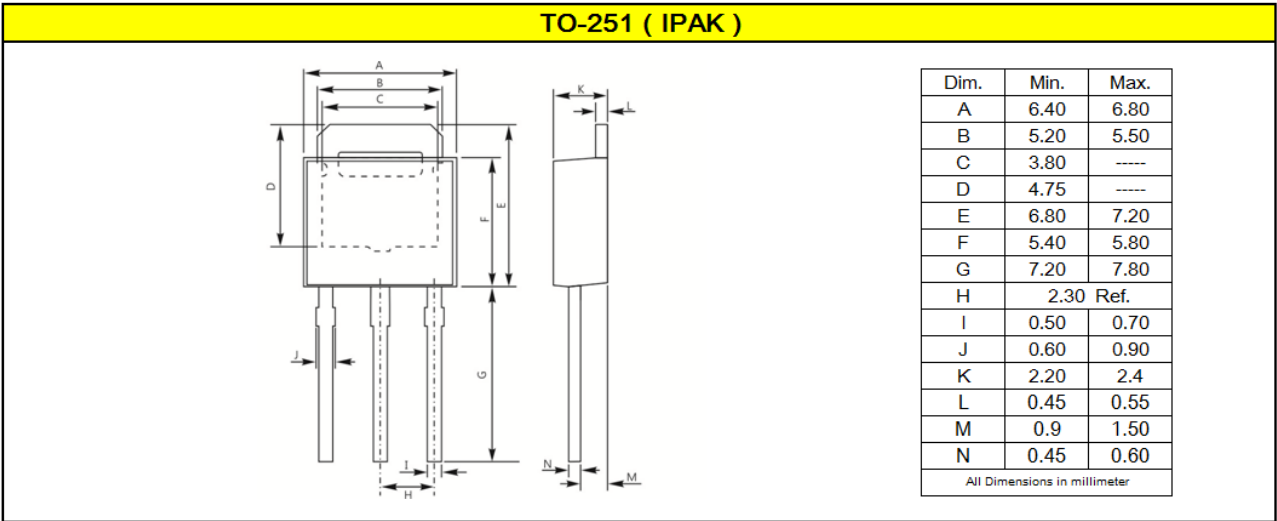
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4. Package information

Package Outline Dimensions millimeters



5. Ordering information

Part Number	Package	Delivery mode
PT10L120ES	TO-251 (I-PAK)	75 pieces / tube
PT10L120DS	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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