



PFC Device Corporation

**PT30A80E**  
**PT30A80D**

## 30A 80V HPTR<sup>®</sup> Schottky Rectifier

### Major ratings and characteristics

| Characteristics                      | Values      | Units      |
|--------------------------------------|-------------|------------|
| $I_{F(AV)}$ Rectangular Waveform     | 15 × 2      | A          |
| $V_{RRM}$                            | 80          | V          |
| $V_F@ 5A, T_j=125^\circ C$           | 0.42        | V, typ.    |
| $T_j$ Operating Junction Temperature | -40 to +150 | $^\circ C$ |

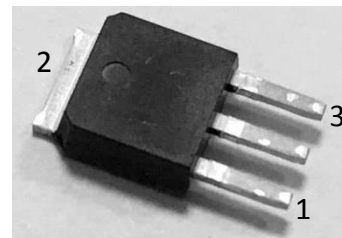
### Features

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

### Typical Applications

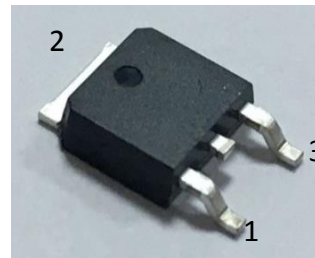
Device optimized for low forward voltage drop to maximize efficiency in Power Supply applications

PT30A80E

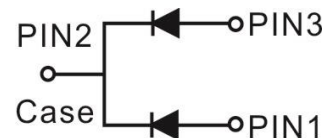


TO-251 (I-PAK)

PT30A80D



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  | $V_{RM}$       | 80           | Volts                       |
| Working Peak Reverse Voltage   | $V_{RWM}$      |              |                             |
| Peak Repetitive Reverse Voltage  | $V_{RRM}$      |              |                             |
| Average Rectified Forward Current<br>Per device<br>(Rated VR-20Khz Square Wave) - 50% duty cycle | $I_o$          | 30           | Amps                        |
| Peak Forward Surge Current - 1/2 60hz  | $I_{FSM}$      | 150          | Amps                        |
| Peak Repetitive Reverse Surge Current (2uS-1Khz)   | $I_{RRM}$      | 0.5          | Amps                        |
| Typical Thermal Resistance (per leg)<br>Package = I-PAK TO-251<br>Package= D-PAK TO-252          | $R\theta_{JC}$ | 6<br>6       | $^\circ\text{C} / \text{W}$ |
| 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         |
|----------------------------------|----------------------|---------------------------|---------|-----------|-------|---------------|
| Breakdown Voltage                | $I_R = 0.5\text{mA}$ | $T_J = 25^\circ\text{C}$  | $V_B^*$ | 80 (min.) |       | V             |
| Instantaneous<br>Forward Voltage | $I_F = 5\text{ A}$   | $T_J = 25^\circ\text{C}$  | $V_F^*$ | 0.5       | ----- | Volts         |
|                                  | $I_F = 15\text{A}$   |                           |         | 0.65      | 0.69  |               |
|                                  | $I_F = 5\text{ A}$   | $T_J = 125^\circ\text{C}$ |         | 0.42      | ----- |               |
|                                  | $I_F = 15\text{ A}$  |                           |         | 0.62      | 0.66  |               |
| Instantaneous<br>Reverse Current | At 80V               | $T_J = 25^\circ\text{C}$  | $I_R^*$ | 10        | 300   | $\mu\text{A}$ |
|                                  |                      | $T_J = 125^\circ\text{C}$ |         | 8         | 45    | $\text{mA}$   |

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



2. Characteristics Curves

Ratings and Characteristics Curves

( TA = 25°C unless otherwise specified )

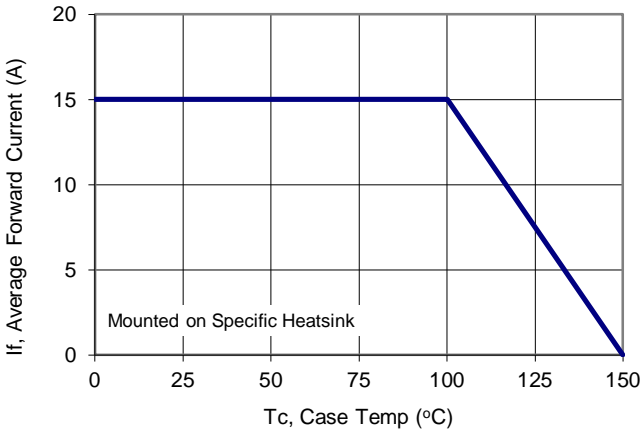


Figure 1: Current Derating, Case

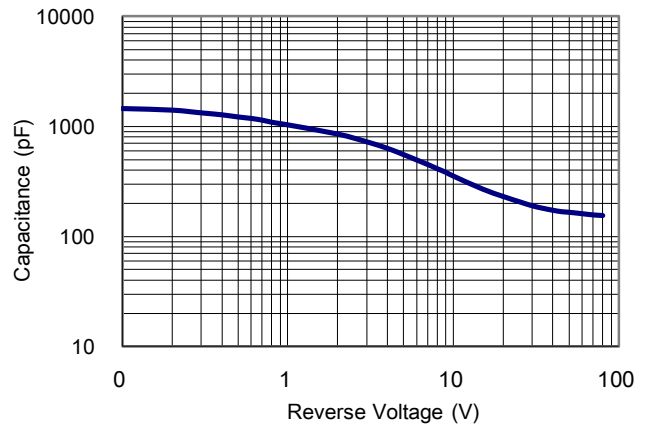


Figure 2: Typical Junction Capacitance

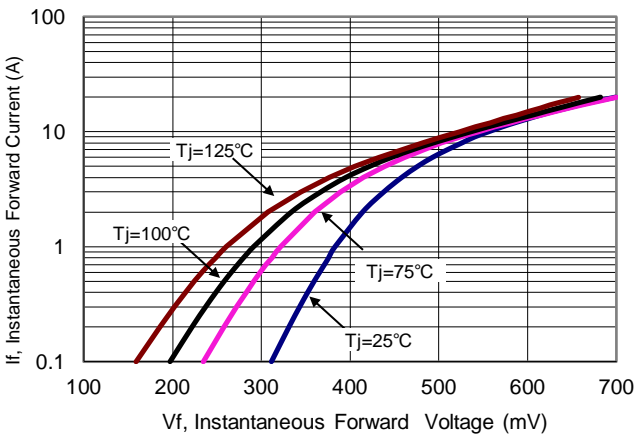


Figure 3: Typical Forward Voltage

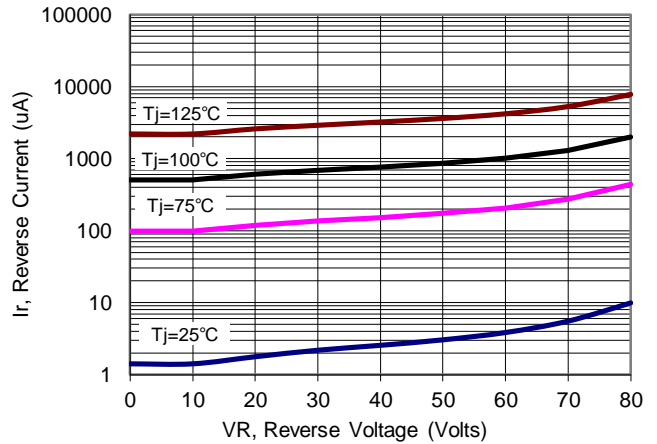


Figure 4: Typical Reverse Current



### 3. Marking information

**Top Marking Rule**

**PFC**  
**PT30A80E**  
**YYWW    ABSH**

PT30A80E = 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)

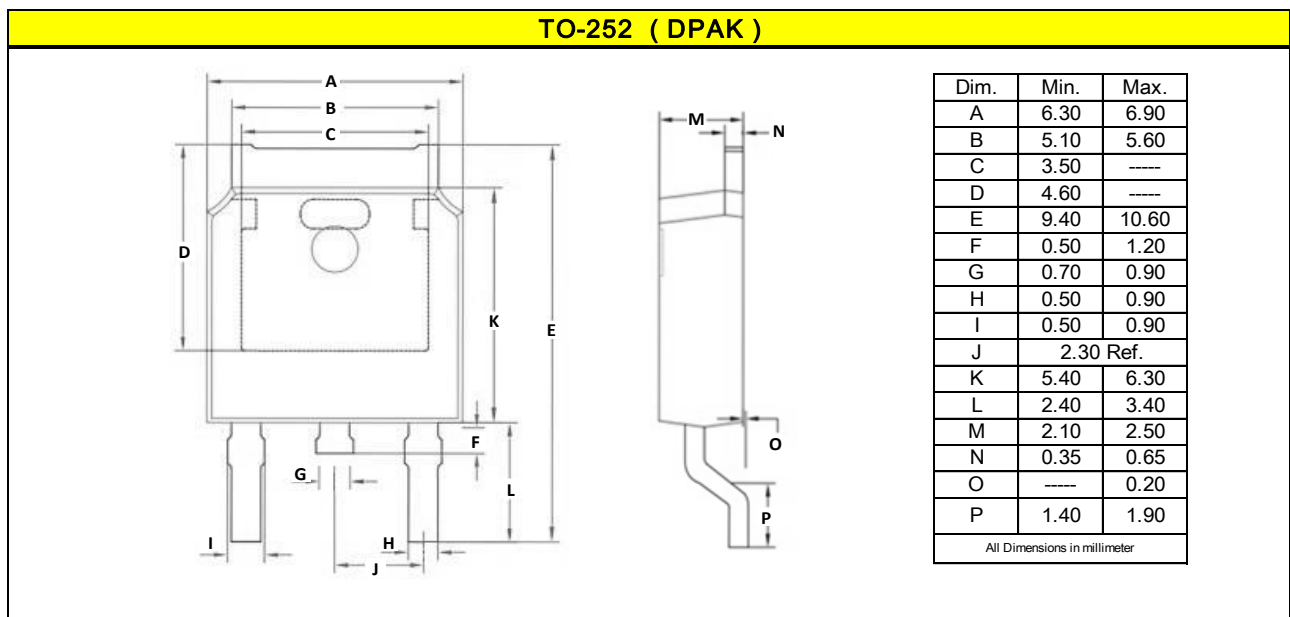
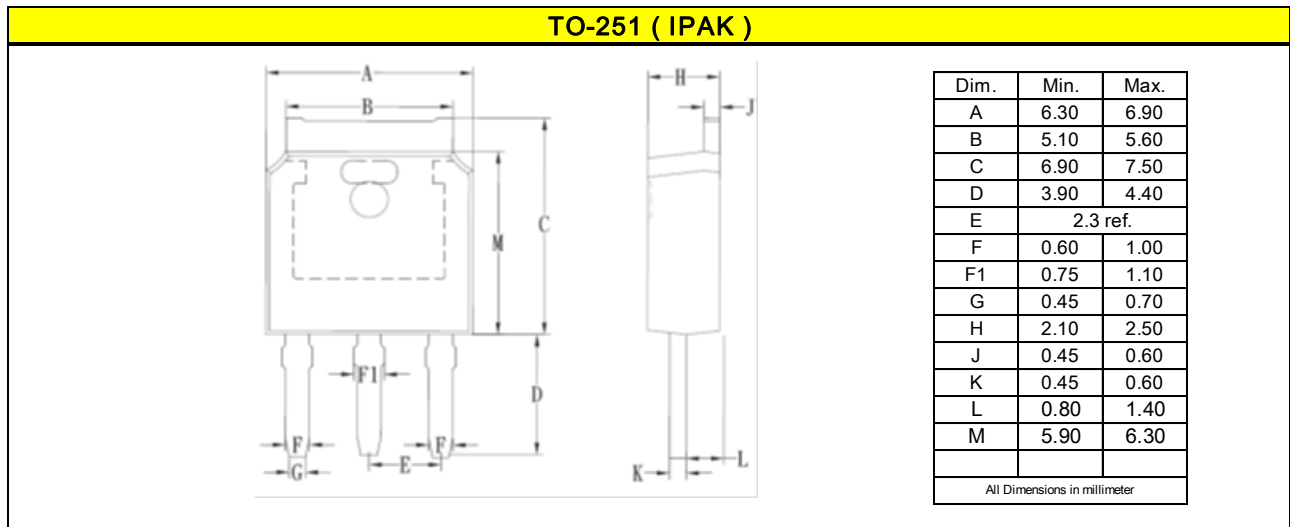
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4. Package information

Package Outline Dimensions millimeters



**5. Ordering information**

| Part Number | Package        | Delivery mode                |
|-------------|----------------|------------------------------|
| PT30A80E    | TO-251 (I-PAK) | 75 pieces / tube             |
| PT30A80D    | 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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