



PFC Device Corporation

PT15L80SP

15A 80V HPTR® Schottky Rectifier

Major ratings and characteristics

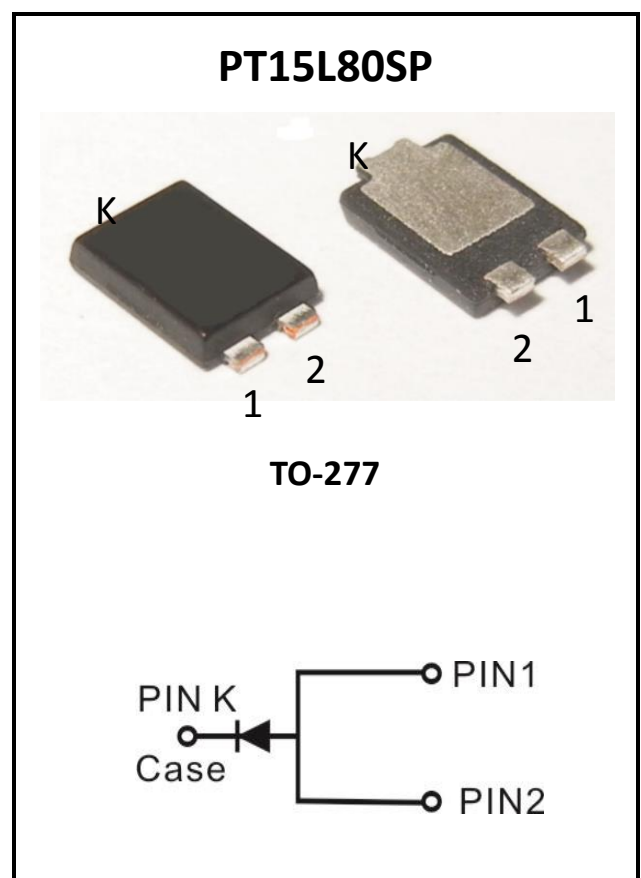
| Characteristics | Values | Units |
|--------------------------------------|-------------|------------|
| $I_{F(AV)}$ Rectangular Waveform | 15 | A |
| V_{RRM} | 80 | V |
| $V_F@ 15A, T_J=125^\circ C$ | 0.57 | V, typ. |
| T_J Operating Junction Temperature | -40 to +150 | $^\circ C$ |

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
- 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 °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 Per device | I _O | 15 | Amps |
| Peak Forward Surge Current - 1/2 60hz | I _{FSM} | 180 | Amps |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I _{RRM} | 1 | Amps |
| Typical Thermal Resistance | | | |
| Thermal Resistance junction to Ambient Note (1) | R _{θJA} | 72 | °C / W |
| Thermal Resistance junction to Ambient Note (2) | R _{θJA} | 30 | |
| Maximum Rate of Voltage Change (at Rated VR) | dv/dt | 10000 | V/uS |
| Operating Junction Temperature | T _J | - 40 to +150 | °C |
| Storage Junction Temperature | T _{STG} | - 40 to +150 | |

| Electrical Characteristics - (per leg) | | | (T _A = 25 °C unless otherwise specified) | | | |
|---|--------------------|-------------------------|---|------|-------|-------|
| Parameter | Test Conditions | | Symbol | Typ. | Max. | Units |
| Instantaneous Forward Voltage | IF = 5 A | T _J = 25 °C | VF* | 0.47 | ----- | Volts |
| | IF = 15 A | | | 0.61 | 0.70 | |
| | IF = 5 A | T _J = 125 °C | | 0.40 | ----- | |
| | IF = 15 A | | | 0.57 | 0.61 | |
| Instantaneous Reverse Current | At V _{RM} | T _J = 25 °C | IR* | 18 | 200 | uA |
| | | T _J = 125 °C | | 15 | 30 | mA |
| * Pulse width < 300 uS, Duty cycle < 2% | | | | | | |
| Note 1. FR-4 PCB, 2 oz Copper. Minimum recommended pad layout | | | | | | |
| Note 2. Polyimide PCB, 2 oz Copper. Cathode pad dimensions 18.8x14.4mm , Anode pad dimensions- (5.6x14.4mm) | | | | | | |



2. Characteristics Curves

Ratings and Characteristics Curves

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

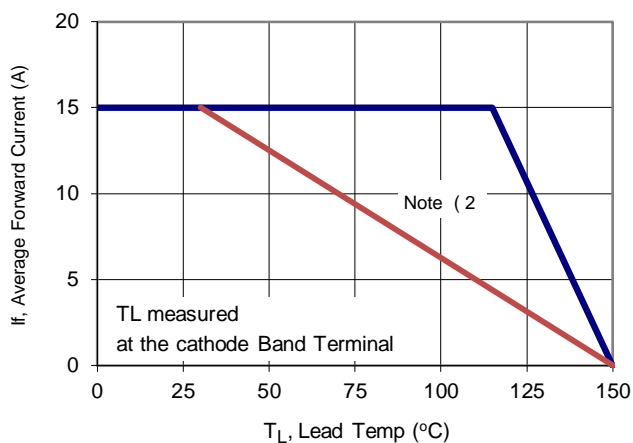


Figure 1: Current Derating, Case

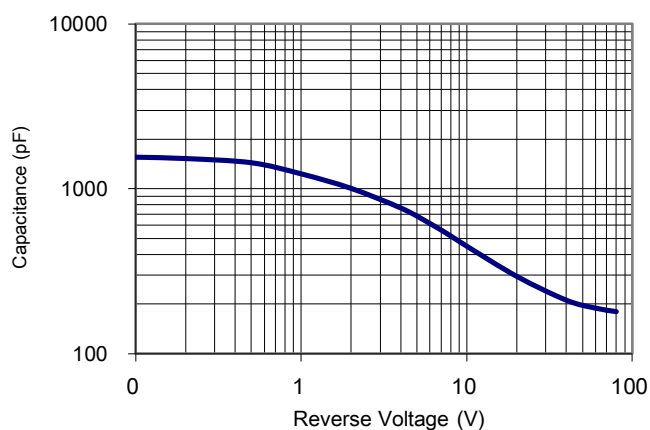


Figure 2: Typical Junction Capacitance

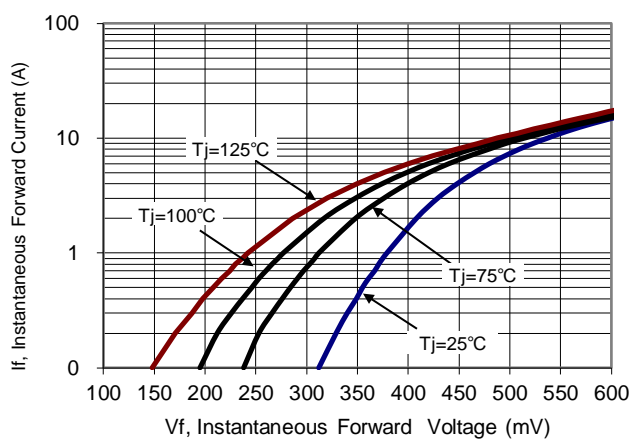


Figure 3: Typical Forward Voltage

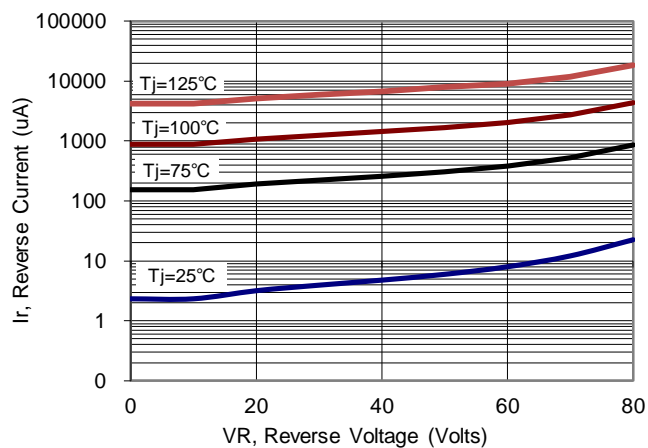
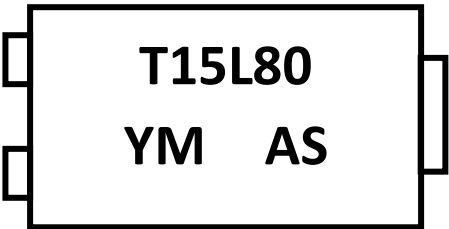


Figure 4: Typical Reverse Current



3. Marking information

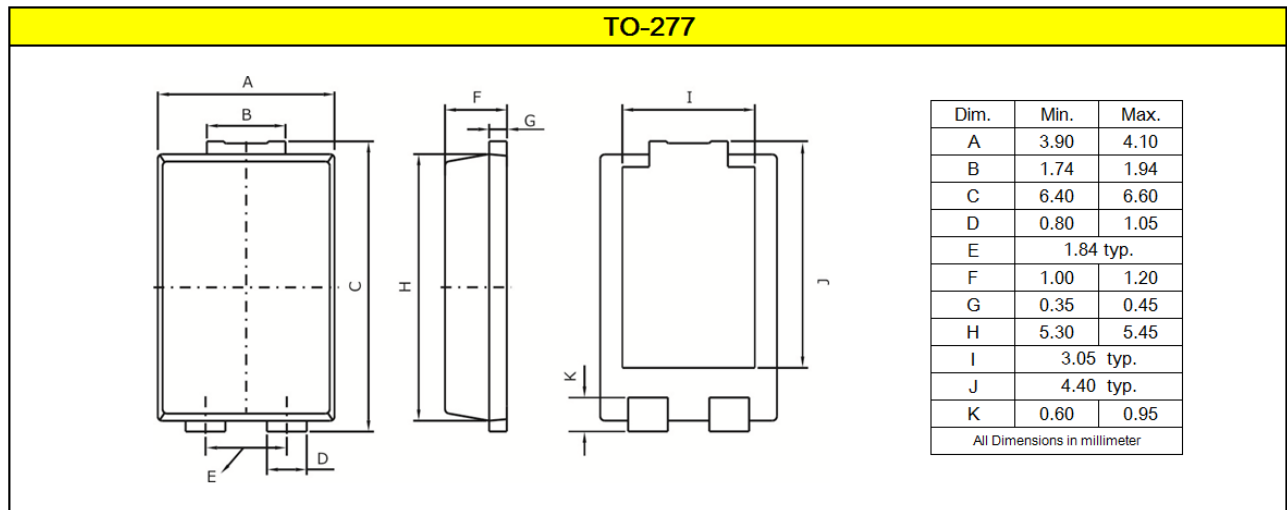
Top Marking Rule



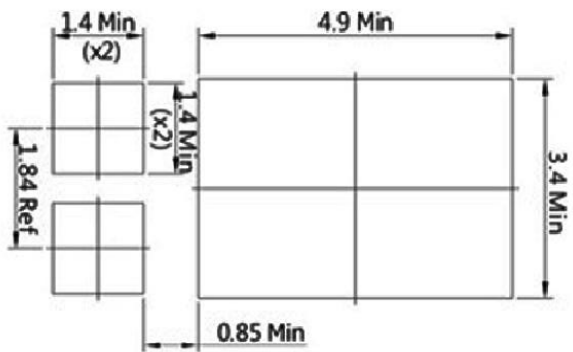
T15L80 = Product Type Marking Code
YM = Date Code
Y = Last one digits of year
M = Month code
A = Assembly Code
S = Series Number

4. Package information

Suggested Package Outline Dimensions millimeters

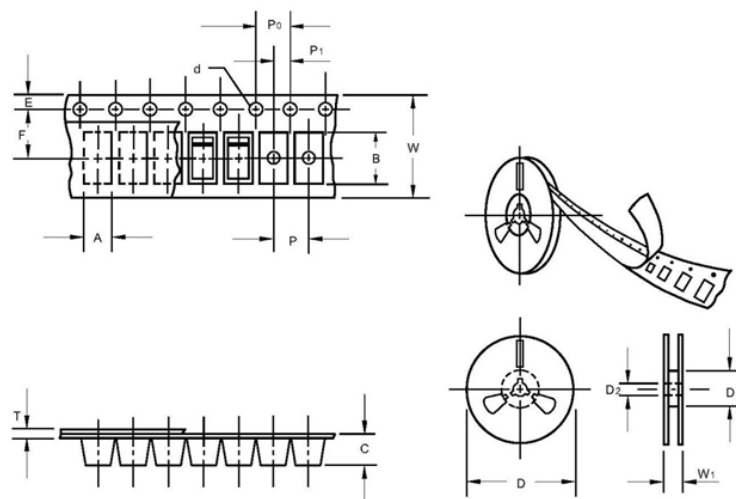


Mounting pad Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



| Item | Symbol | Dimension |
|-----------------------|--------|-----------|
| Carrier width | A | 4.4±0.10 |
| Carrier length | B | 7.0±0.10 |
| Carrier depth | C | 1.4±0.10 |
| Sprocket hole | d | 1.5±0.10 |
| Reel outside diameter | D | 330.0±1.0 |
| Reel inner diameter | D1 | 75±1.0 |
| Feed hole diameter | D2 | 13.5±1.0 |
| Stocket hole position | E | 1.75±0.10 |
| Punch hole position | F | 7.5±0.10 |
| Punch hole pitch | P | 8.0±0.10 |
| Sprocket hole pitch | P0 | 4.0±0.10 |
| Embossment center | P1 | 2.0±0.10 |
| Totall tape thickness | T | 0.3±0.10 |
| Tape width | W | 16.0±0.20 |
| Reel width | W1 | 22.7±1.5 |

Ordering information

| Part Number | Package | Base Quantity | Delivery mode |
|-------------|---------|---------------|------------------------------------|
| PT15L80SP | TO-277 | 5000 | 13" diameter plastic tape and reel |

Mechanical

- Molder Plastic: UL Flammability Classification Rating 94V-0
- Device Weight : 0.003 ounces (0.093grams) - TO-277

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