



PFC Device Corporation

PT20L100N5

20A 100V HPTR® Schottky Rectifier

Major ratings and characteristics

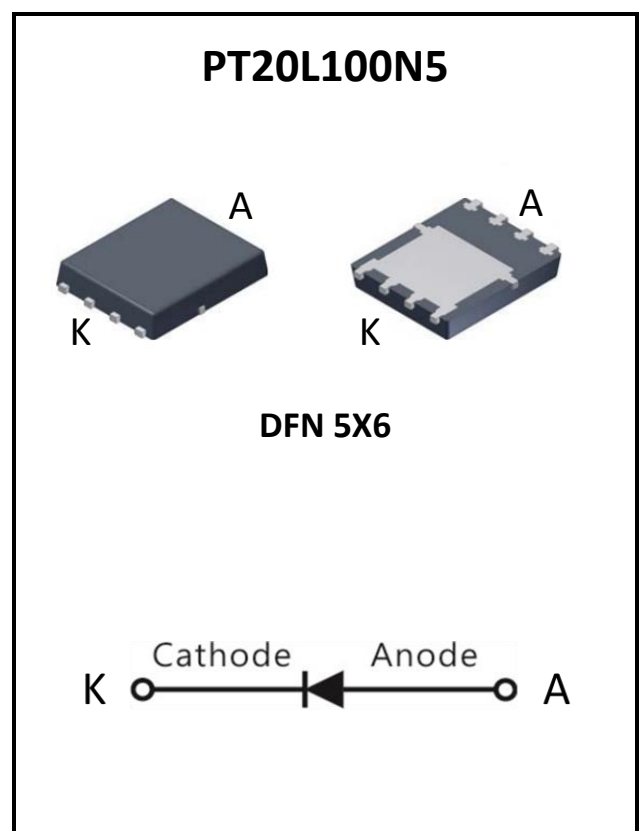
| Characteristics | Values | Units |
|--------------------------------------|-------------|------------|
| $I_{F(AV)}$ Rectangular Waveform | 20 | A |
| V_{RRM} | 100 | V |
| $V_F@ 20A, T_J=125^\circ C$ | 0.61 | V, typ. |
| T_J Operating Junction Temperature | -40 to +150 | $^\circ C$ |

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} | 100 | Volts | | | |
| Working Peak Reverse Voltage | V _{RWM} | | | | | |
| Peak Repetitive Reverse Voltage | V _{RRM} | | | | | |
| Average Rectified Forward Current Per device | I _o | 20 | Amps | | | |
| (Rated VR-20Khz Square Wave) - 50% duty cycle | | | | | | |
| Peak Forward Surge Current - 1/2 60hz | I _{FSM} | 250 | Amps | | | |
| Peak Repetitive Reverse Surge Current (2uS-1Khz) | I _{RRM} | 1 | Amps | | | |
| Typical Thermal Resistance | Rθ _{JA} | 72 | °C / W | | | |
| Thermal Resistance junction to Ambient Note (1) | | | | | | |
| Thermal Resistance junction to Ambient Note (2) | | | | | | |
| 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 = 10 A | | | 0.53 | ----- | |
| | IF = 20 A | | | 0.67 | 0.73 | |
| | IF = 5 A | T _J = 125 °C | | 0.38 | ----- | |
| | IF = 10 A | | | 0.48 | ----- | |
| | IF = 20 A | | | 0.61 | 0.67 | |
| Instantaneous Reverse Current | VR = 70V | T _J = 25 °C | IR* | 7.0 | ----- | uA |
| | VR = 100V | | | ----- | 300 | uA |
| | VR = 70V | T _J = 125 °C | | 10.0 | ----- | mA |
| | VR = 100V | | | 17.0 | 45 | 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)

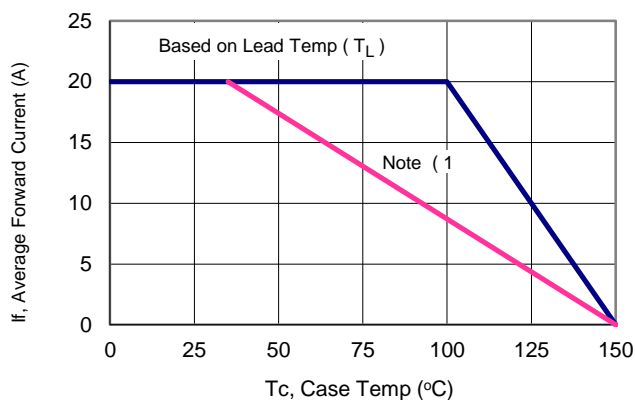


Figure 1: Current Derating, Case

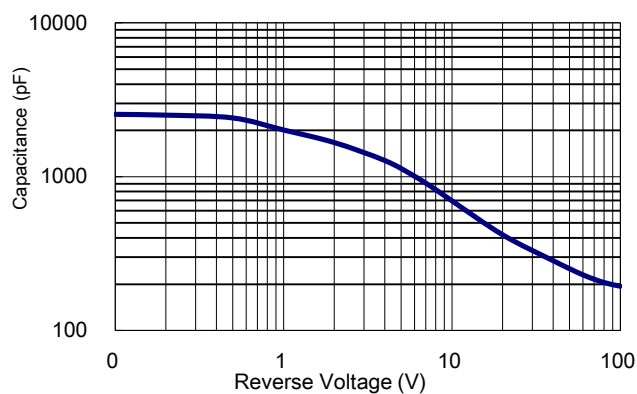


Figure 2: Maximum Repetitive Surge Current

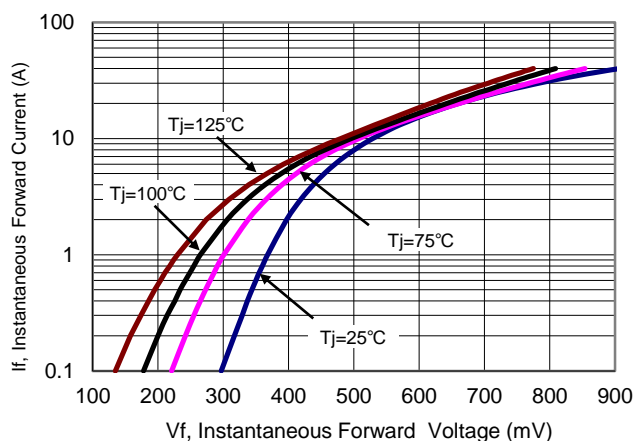


Figure 3: Typical Forward Voltage

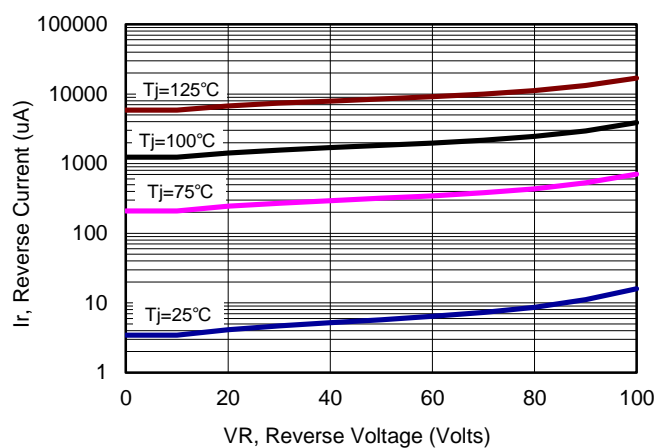
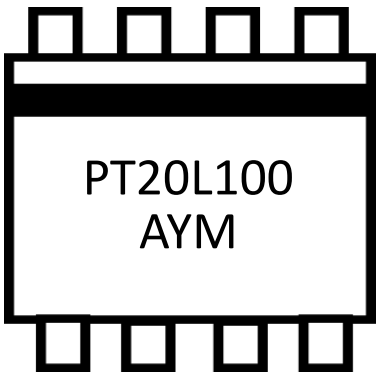


Figure 4: Typical Reverse Current



3. Marking information

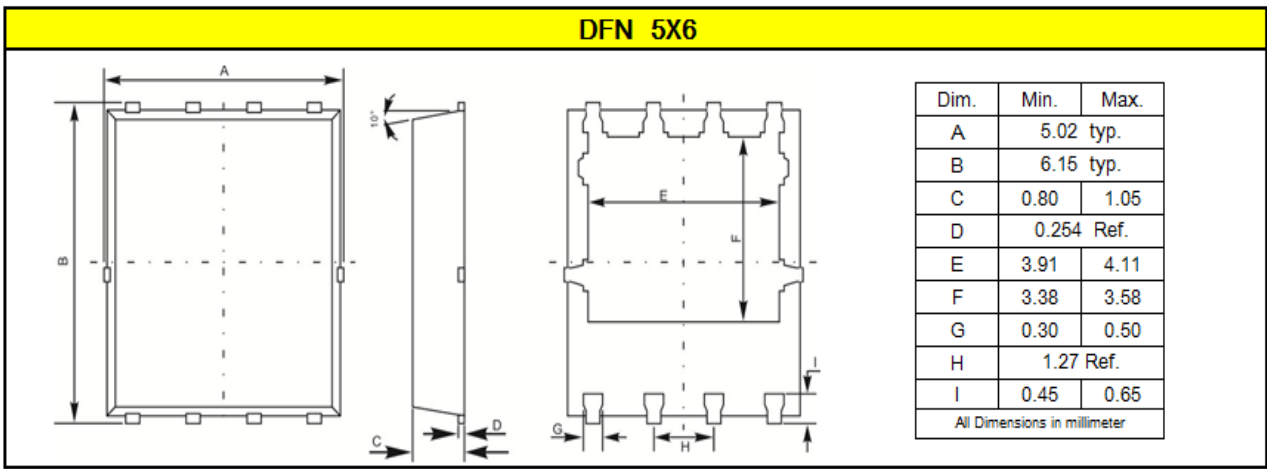
Top Marking Rule



PT20L100 = Product Type Marking Code
A = Assembly Code
YM = Date Code
Y = Last digits of year
M = Month code

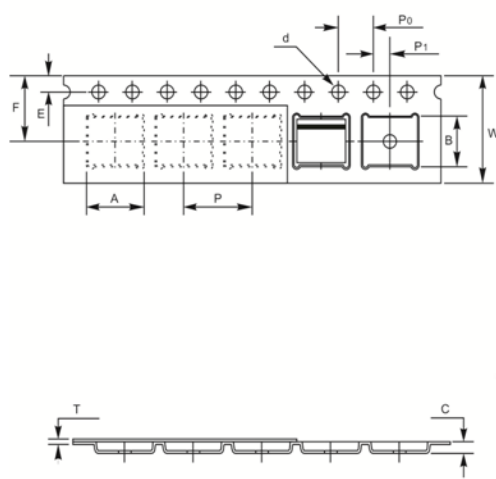
4. Package information

Suggested Package Outline Dimensions millimeters



5. Packing and Ordering information

Packing information millimeters



| Item | Symbol | Dimension |
|-----------------------|--------|-----------|
| Carrier width | A | 6.3±0.10 |
| Carrier length | B | 5.3±0.10 |
| Carrier depth | C | 1.2±0.10 |
| Sprocket hole | d | 1.5±0.10 |
| Reel outside diameter | D | 330.0±2.0 |
| Reel inner diameter | D1 | 100±1.0 |
| Feed hole diameter | D2 | 13.5±1.0 |
| Stocket hole position | E | 1.75±0.10 |
| Punch hole position | F | 5.5±0.05 |
| Punch hole pitch | P | 8.0±0.10 |
| Sprocket hole pitch | P0 | 4.0±0.10 |
| Embossment center | P1 | 2.0±0.10 |
| Total tape thickness | T | 0.3±0.05 |
| Tape width | W | 12.0±0.15 |
| Reel width | W1 | 18.4±1.5 |

Ordering information

| Part Number | Package | Base Quantity | Delivery mode |
|-------------|---------|---------------|------------------------------------|
| PT20L100N5 | DFN 5X6 | 3000 | 13" diameter plastic tape and 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 : 0.003 ounces (0.093grams) – DFN 5X6

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