



PFC Device Corporation

PTR20H100CT
PTR20H100CTF
PTR20H100CTI
PTR20H100CTB

20A 100V HPTR[®] Schottky Rectifier

Major ratings and characteristics

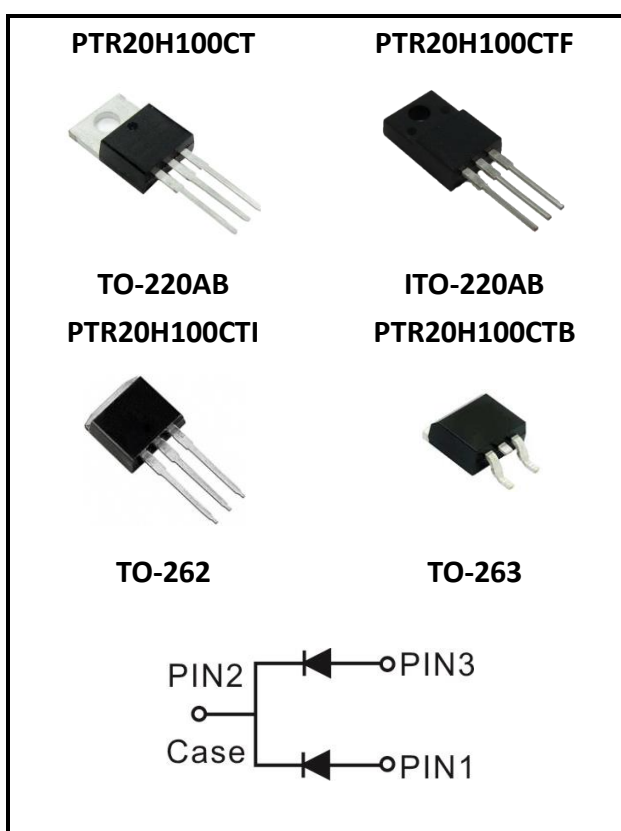
| Characteristics | Values | Units |
|--------------------------------------|-------------|-------------|
| $I_{F(AV)}$ Rectangular Waveform | 10 × 2 | A |
| V_{RRM} | 100 | V |
| $V_F@ 10A, T_J=125^{\circ}C$ | 0.61 | V, typ. |
| T_J Operating Junction Temperature | -40 to +150 | $^{\circ}C$ |

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

Typical Applications

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



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 | 20 | 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} | 1 | Amps |
| Typical Thermal Resistance (per leg) Package = TO-220AB Package = ITO-220AB Package = TO-262 Package = TO-263 | $R\theta_{JC}$ | 2 4 2.5 3 | $^{\circ}\text{C} / \text{W}$ |
| Isolation voltage (ITO-220 only) | | V_{AC} | |
| Maximum Rate of Voltage Change (at Rated V_R) | | dv/dt | |
| Operating Junction Temperature | | T_J | |
| Storage Junction Temperature | T_{STG} | - 40 to +150 | $^{\circ}\text{C}$ |

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 | V _F [*] | 0.49 | ----- | Volts |
| | IF = 5 A | | | 0.54 | ----- | |
| | IF = 10 A | | | 0.66 | 0.71 | |
| | IF = 3 A | T _J = 125 °C | | 0.41 | ----- | |
| | IF = 5 A | | | 0.50 | ----- | |
| | IF = 10 A | | | 0.61 | 0.64 | |
| Instantaneous Reverse Current | At V _{RM} | T _J = 25 °C | IR [*] | 10 | 200 | uA |
| | | T _J = 125 °C | | 8 | 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)

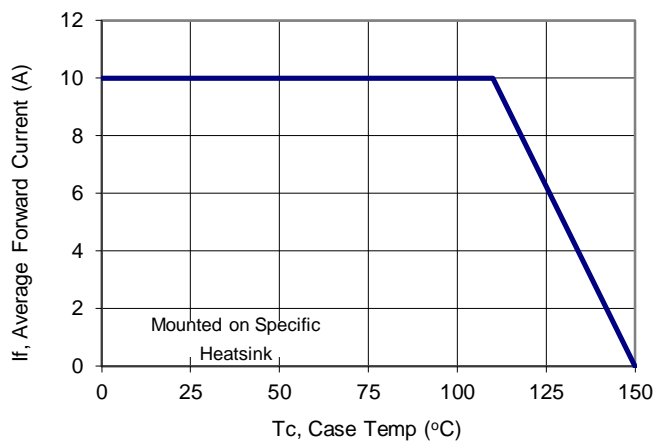


Figure 1: Current Derating, Case

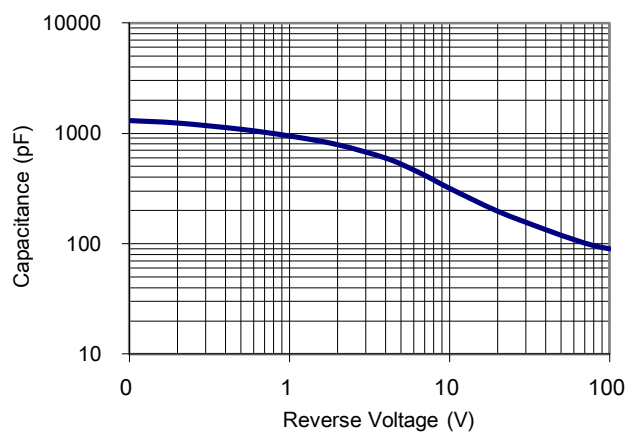


Figure 2: Typical Junction Capacitance

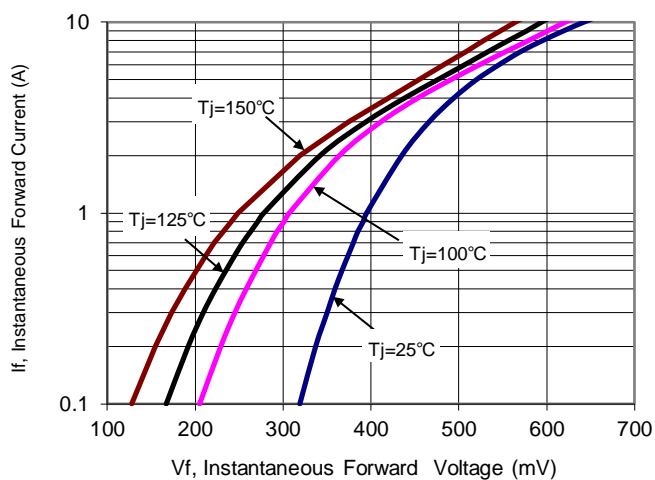


Figure 3: Typical Forward Voltage

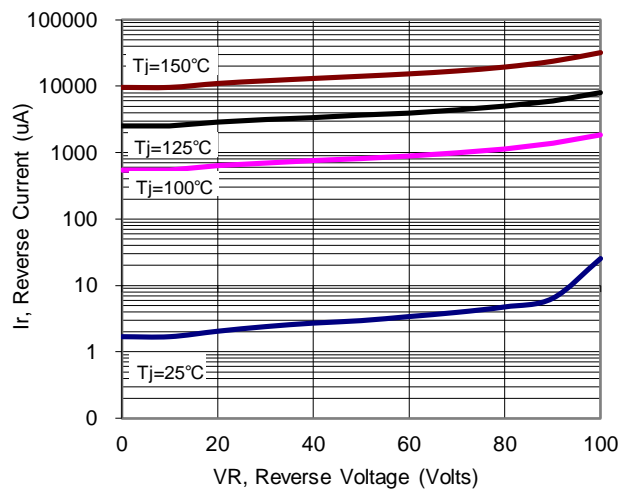


Figure 4: Typical Reverse Current



3. Marking information

Top Marking Rule

PFC PTR
20H100CT
YYWW ABSH

PTR20H100CT = 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)

PFC PTR
20H100CTF
YYWW ABSH

PTR20H100CTF = Product Type Marking Code
YYWW = Date Code
YY = Last two digits of year
WW = Week code
AB = Assembly code
S = Series Number
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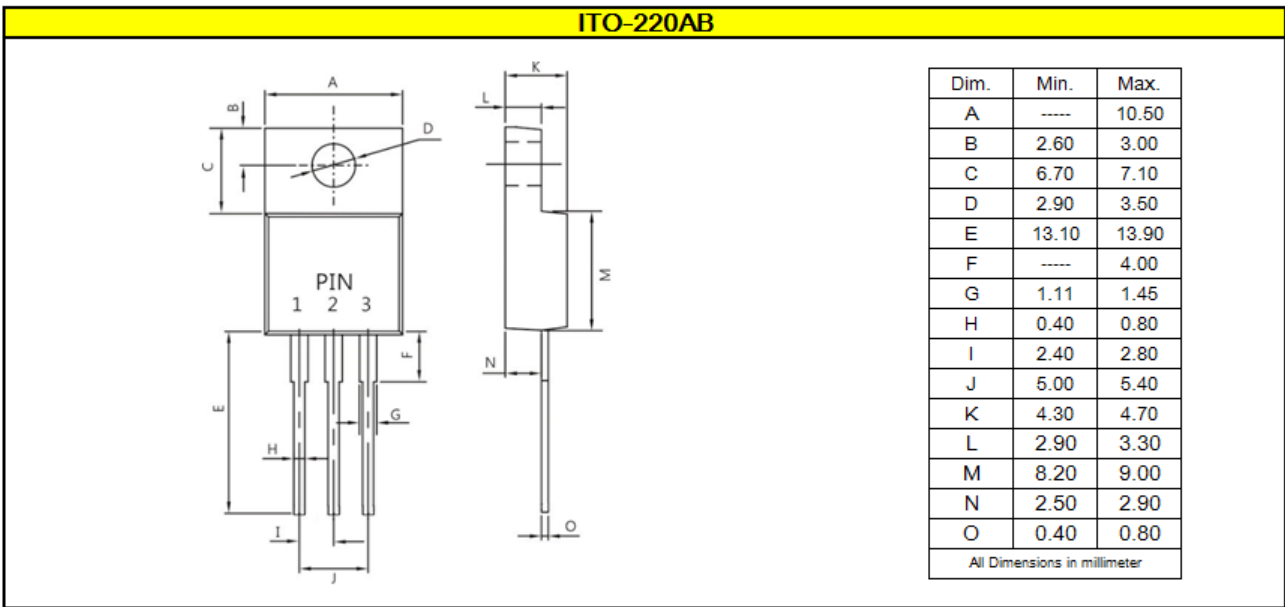
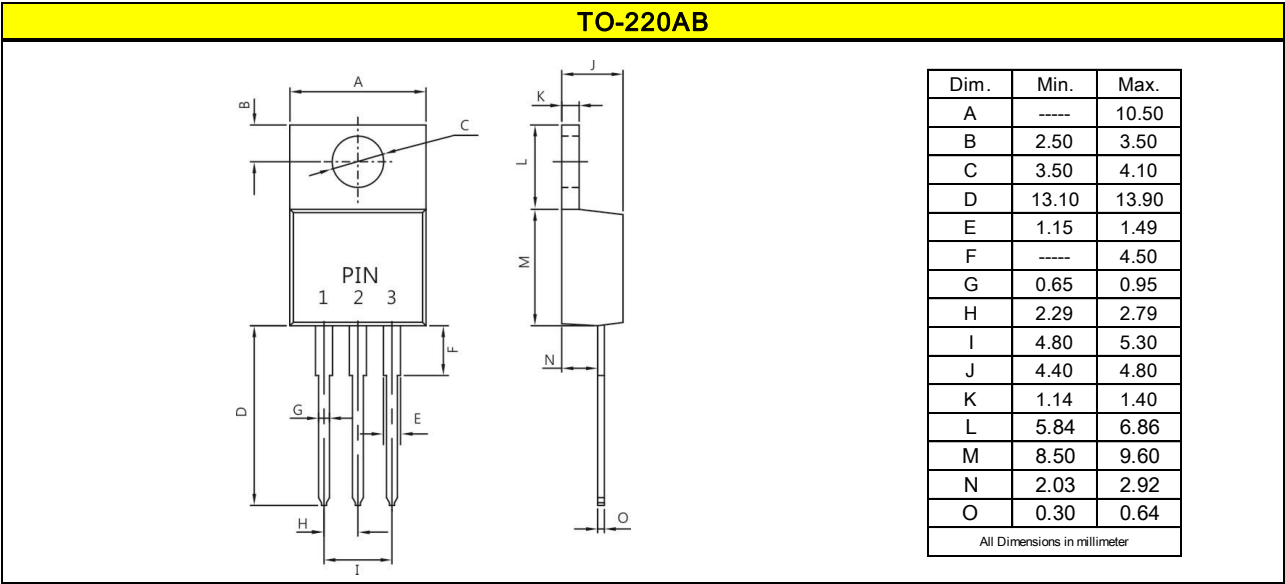
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PTR20H100CTB = Product Type Marking Code
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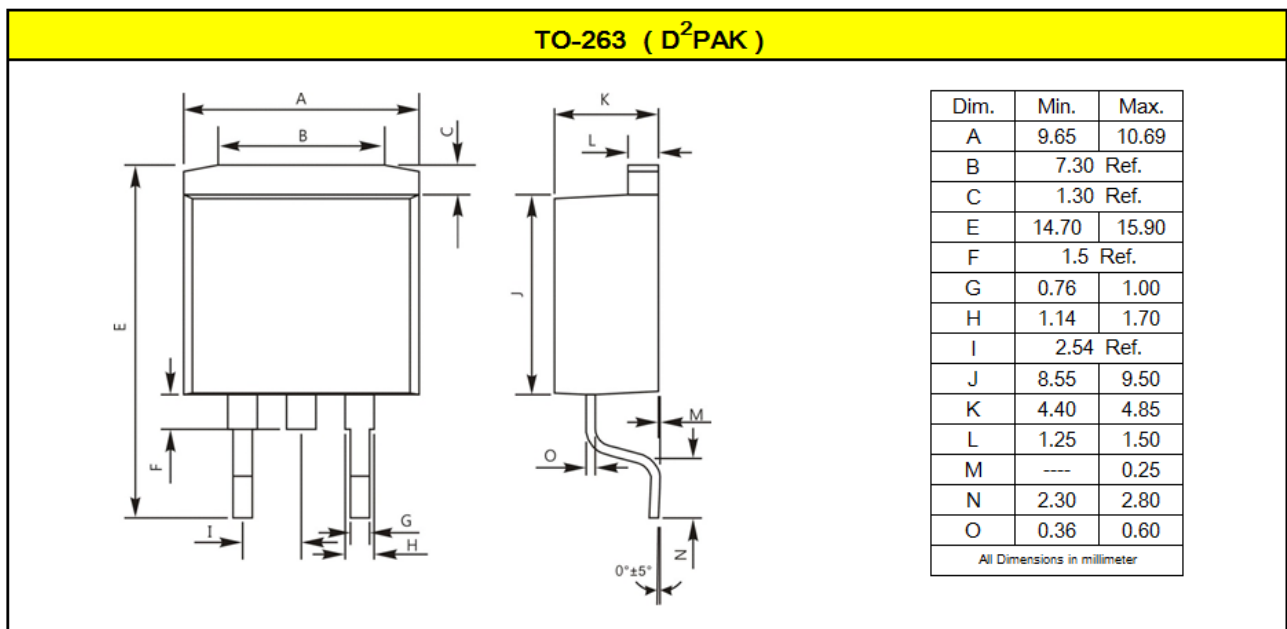


4. Package information

Package Outline Dimensions millimeters



Package Outline Dimensions millimeters



5. Ordering information

| Part Number | Package | Delivery mode |
|--------------|-----------|--------------------------------|
| PTR20H100CT | TO-220AB | 50 pieces / tube |
| PTR20H100CTF | ITO-220AB | 50 pieces / tube |
| PTR20H100CTI | TO-262 | 50 pieces / tube |
| PTR20H100CTB | TO-263 | 800 pieces / 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 : 0.07 ounces (1.96grams) - TO-220AB
0.06 ounces (1.74grams) - ITO-220AB
0.05 ounces (1.45 grams) - TO-262
0.04 ounces (1.16 grams) - TO-263
- Mounting Torque : Recommended 4~5 kg-cm.

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