



PFC Device Corporation

## PT20V100N5

### 20A 100V HPTR® Schottky Rectifier

#### Major ratings and characteristics

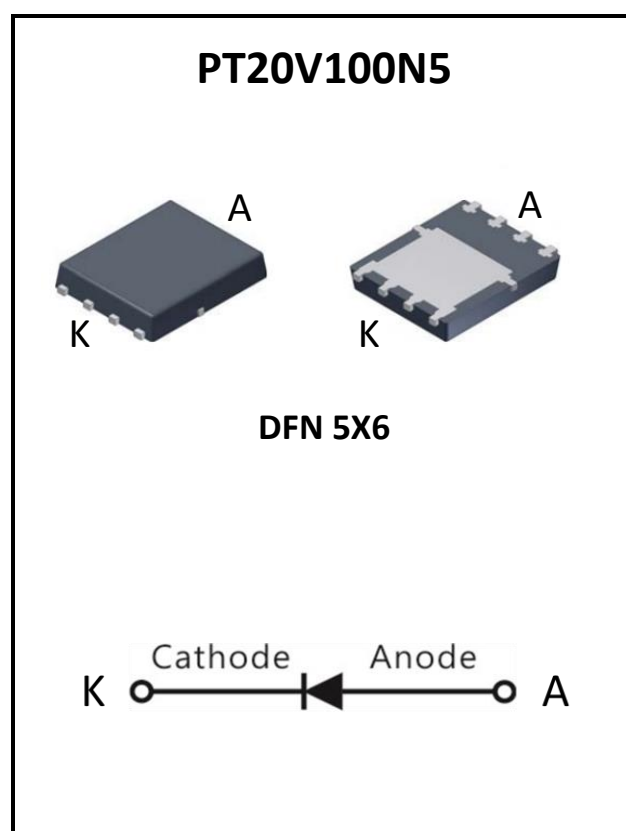
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	20	A
$V_{RRM}$	100	V
$V_F@ 20A, T_J=125^\circ C$	0.59	V, typ.
$T_J$ Operating Junction Temperature	-40 to +150	$^\circ C$

#### 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 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 (Rated VR-20Khz Square Wave) - 50% duty cycle	$I_o$	20	Amps
Peak Forward Surge Current - 1/2 60hz	$I_{FSM}$	300	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	$I_{RRM}$	1	Amps
Typical Thermal Resistance	$R\theta_{JA}$	72	$^{\circ}\text{C} / \text{W}$
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	$^{\circ}\text{C}$
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 = 5 A	T <sub>J</sub> = 25 °C	VF*	0.44	-----	Volts
	IF = 10 A			0.51	-----	
	IF = 20 A			0.63	0.69	
	IF = 5 A	T <sub>J</sub> = 125 °C		0.35	-----	
	IF = 10 A			0.46	-----	
	IF = 20 A			0.59	0.65	
Instantaneous Reverse Current	VR = 70V	T <sub>J</sub> = 25 °C	IR*	9	-----	uA
	VR = 100V			20	300	uA
	VR = 70V	T <sub>J</sub> = 125 °C		11	-----	mA
	VR = 100V			19	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 )

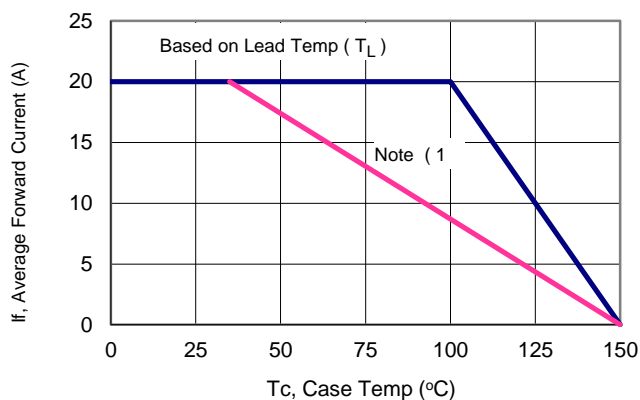


Figure 1: Current Derating, Case

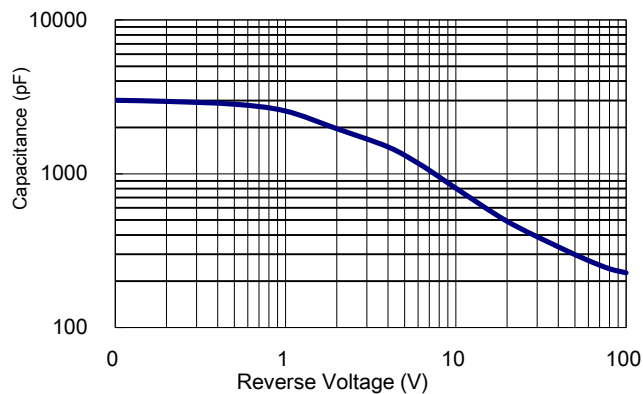


Figure 2: Maximum Repetitive Surge Current

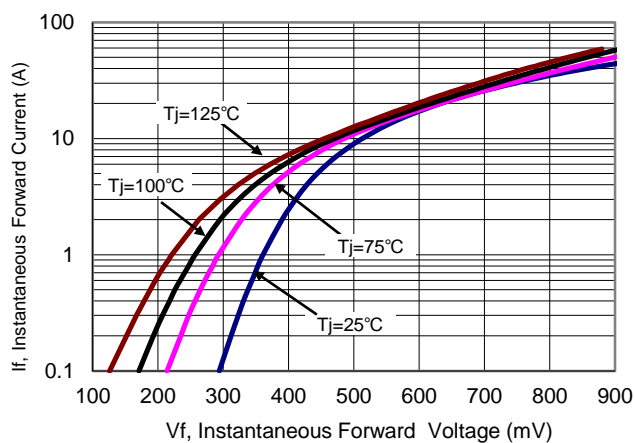


Figure 3: Typical Forward Voltage

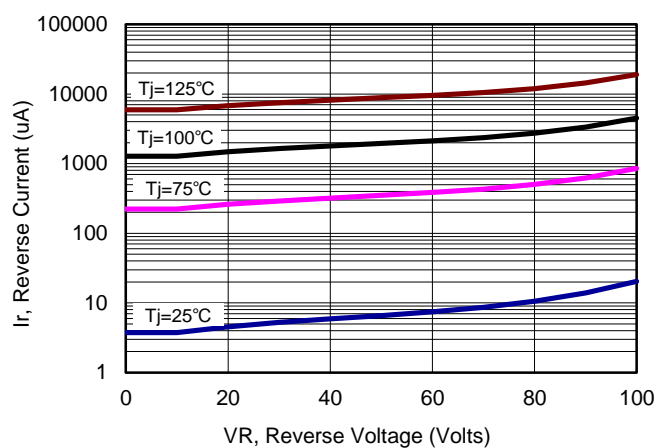
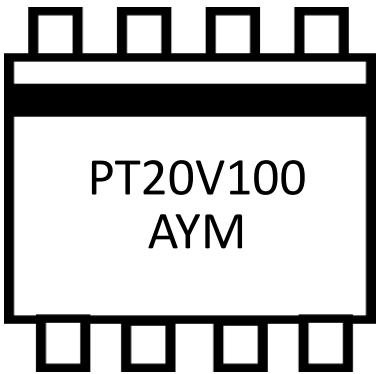


Figure 4: Typical Reverse Current



3. Marking information

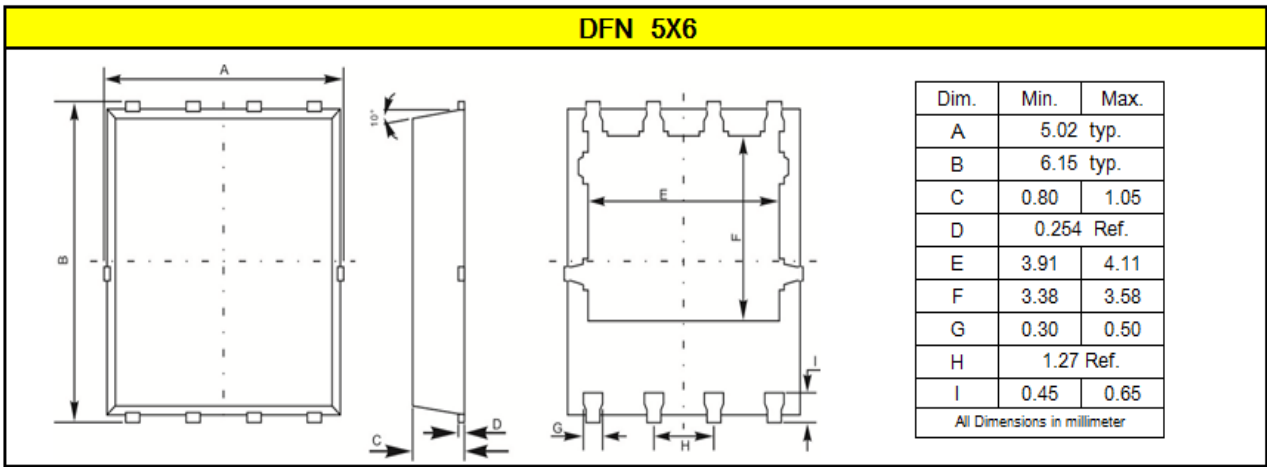
Top Marking Rule



PT20V100 = Product Type Marking Code  
A = Assembly Code  
YM = Date Code  
Y = Last digits of year  
M = Month code

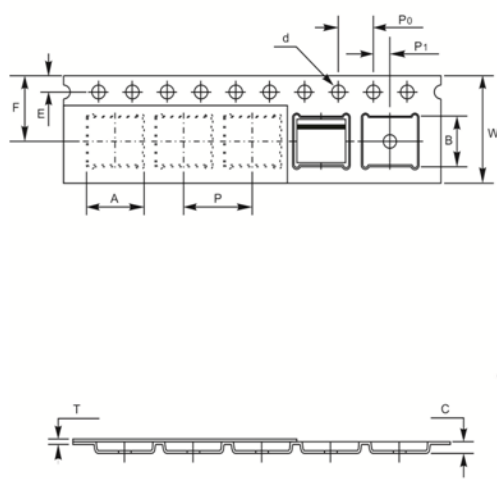
4. Package information

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
PT20V100N5	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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