



PFC Device Corporation

P15V50N5

15A 50V MOS Schottky Rectifier

Major ratings and characteristics

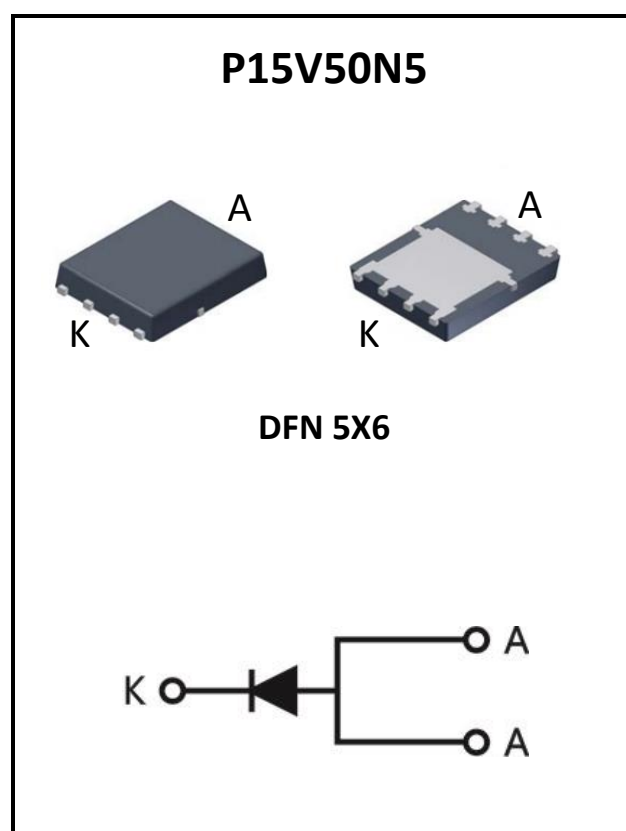
Characteristics	Values	Units
$I_{F(AV)}$ Rectangular Waveform	15	A
V_{RRM}	50	V
$V_F@ 15A, T_J=125^\circ C$	0.45	V, typ.
T_J Operating Junction Temperature	-40 to +150	$^\circ C$

Features

- Ultra Low Forward Voltage 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}	50	Volts
Working Peak Reverse Voltage	V_{RWM}		
Peak Repetitive Reverse Voltage	V_{RRM}		
Average Rectified Forward Current Per device	I_o	15	Amps
(Rated VR-20Khz Square Wave) - 50% duty cycle			
Peak Forward Surge Current - 1/2 60hz	I_{FSM}	300	Amps
Peak Repetitive Reverse Surge Current (2uS-1Khz)	I_{RRM}	2	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 = 15 A	$T_J = 25^{\circ}\text{C}$	VF*	-----	0.51	Volts
		$T_J = 125^{\circ}\text{C}$		0.45	0.49	
Instantaneous Reverse Current	At V_{RM}	$T_J = 25^{\circ}\text{C}$	IR*	-----	500	μA
		$T_J = 125^{\circ}\text{C}$		-----	100	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)

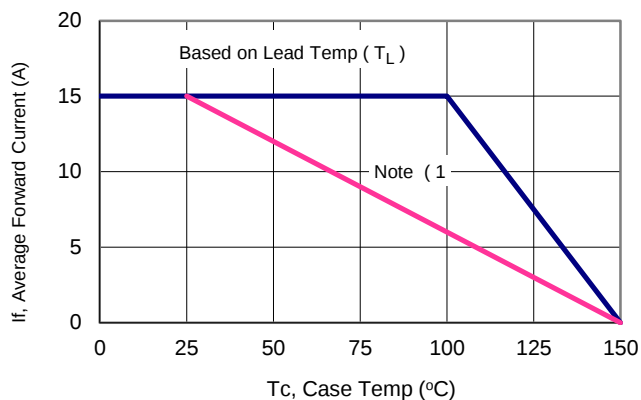


Figure 1: Current Derating, Case

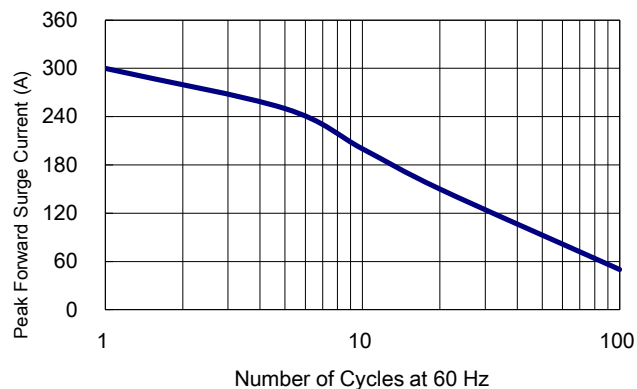


Figure 2: Maximum Repetitive Surge Current

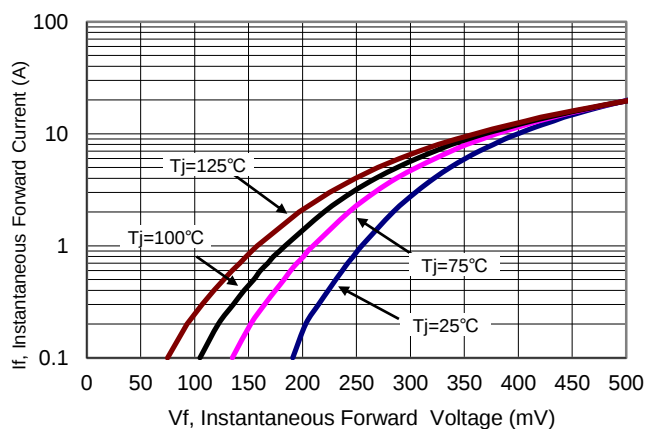


Figure 3: Typical Forward Voltage

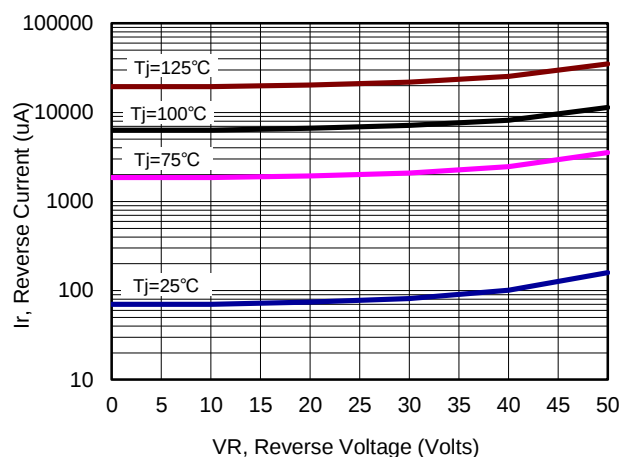


Figure 4: Typical Reverse Current

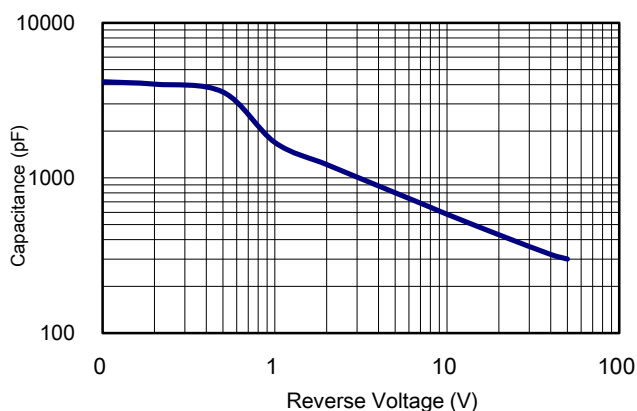
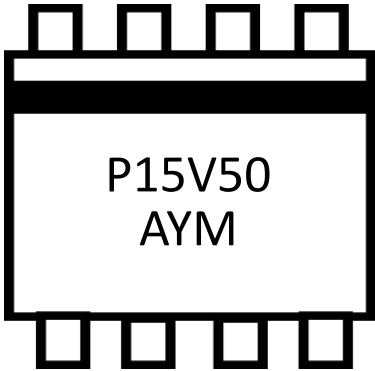


Figure 5: Typical Junction Capacitance



3. Marking information

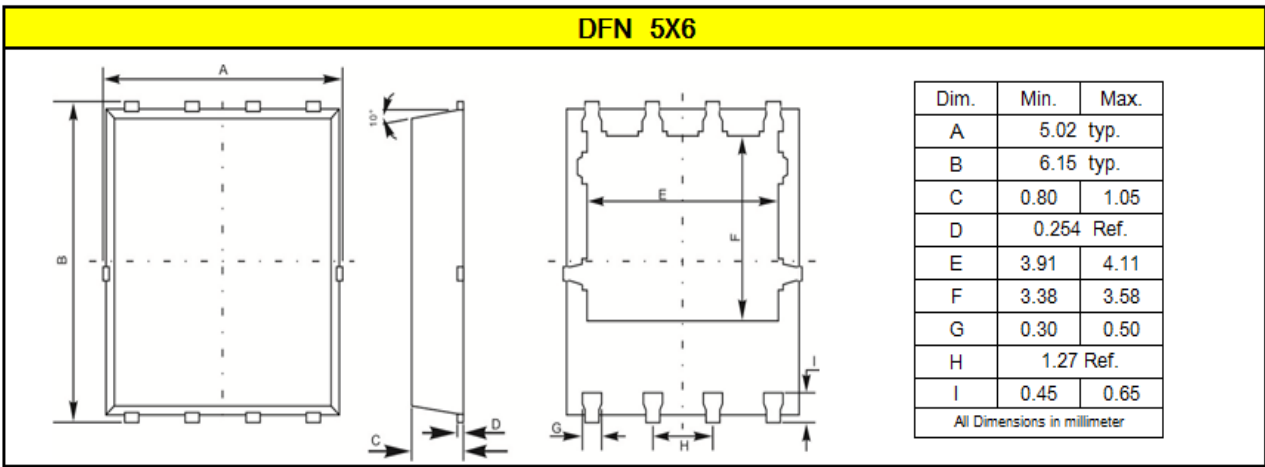
Top Marking Rule



P15V50 = Product Type Marking Code
A = Assembly Code
YM = Date Code
Y = Last digits of year
M = Month code

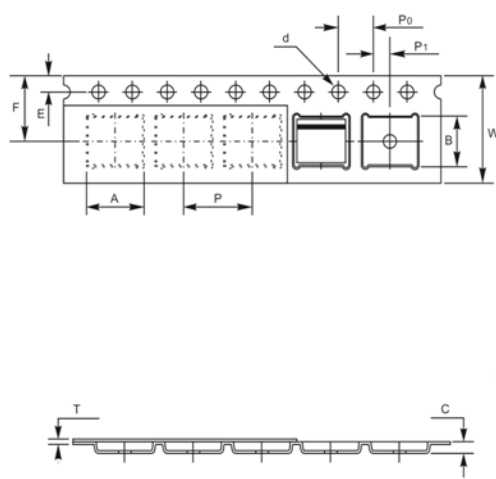
4. Package information

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
P15V50N5	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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