

INTERNATIONAL RECTIFIER 

# 16CPF & 16JPF SERIES

## 16 Amp Fast Recovery Dual Center Tap Rectifiers

### Major Ratings and Characteristics

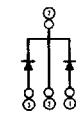
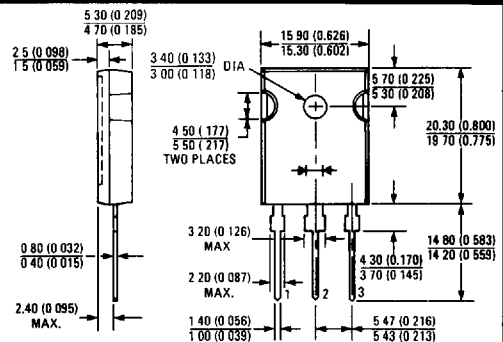
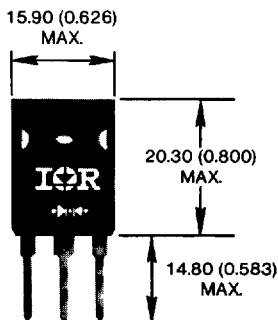
	16CPF10 16CPF20 16JPF10 16JPF20	16CPF30 16CPF40 16JPF30 16JPF40	Units
$I_O$	16		A
$I_{FSM}$	@ 50 Hz	120	A
	@ 60 Hz	126	
$I^2_t$	@ 50 Hz	72	$A^2S$
	@ 60 Hz	66	
$t_{rr}$	35	45	ns
$T_J$ Range	-40 to 150		$^{\circ}C$
$V_{RRM}$ Range	100 & 200	300 & 400	V

### Description/Features

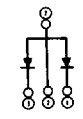
The 16CPF and the 16JPF Series of Fast Recovery Rectifiers are rated at 16 Amps and together provide both positive output and negative output. They are designed for application in switching and inverter power supplies and as free wheeling diodes (both sides tied together).

- Ultrafast 35 or 45 nanosecond maximum recovery time
- Glass passivated junctions
- Popular TO-247AA package
- High voltage capability, to 400 volts
- Low forward drop
- Supplied in both positive and negative output versions for single-phase bridge applications

### CASE STYLE AND DIMENSIONS



16CPF SERIES



16JPF SERIES

- 1 - ANODE  
2 - COMMON CATHODE  
3 - ANODE

Conforms to JEDEC Outline TO-247AA  
Dimensions in Millimeters and (Inches)

**16CPF, 16JPF Series****VOLTAGE RATINGS**

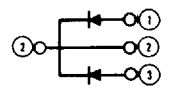
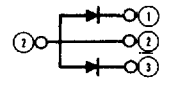
Part Numbers	$V_{RRM}$ – Max. Repetitive Peak Reverse Voltage (V)	$V_{RSM}$ – Max. Non-Repetitive Peak Reverse Voltage (V)
16CPF10	100	110
16JPF10		
16CPF20	200	220
16JPF20		
16CPF30	300	330
16JPF30		
16CPF40	400	440
16JPF40		

**ELECTRICAL SPECIFICATIONS**

		16CPF10 16CPF20 16JPF10 16JPF20	16CPF30 16CPF40 16JPF30 16JPF40	Units	Conditions
$I_O$	Max. average output current from center tap circuit	16	16	A	$T_C = 113^\circ\text{C}$ $T_C = 109^\circ\text{C}$
$I_{FSM}$	Max. peak one cycle, non- repetitive surge current, per diode	120	126	A	50 Hz half cycle sine wave or 6 ms rectangular pulse 60 Hz half cycle sine wave or 5 ms rectangular pulse
$I^2t$	Max. $I^2t$ for fusing, per diode	72	66	$\text{A}^2\text{S}$	$t = 10$ ms $t = 8.3$ ms
$V_{FM}$	Max. peak forward voltage per diode	0.98	1.25	V	$T_J = 25^\circ\text{C}$ $I_{FM} = 8\text{A}$
$I_{RM}$	Max. peak reverse current per diode	25	30	$\mu\text{A}$	$T_J = 25^\circ\text{C}$ $V_{RM} = V_{RRM}$
$t_{rr}$	Max. reverse recovery time	35	45	ns	$T_J = 25^\circ\text{C}$ $I_{FM} = 8\text{A}$ $-di/dt = 50 \text{ A}/\mu\text{s}$

**THERMAL-MECHANICAL SPECIFICATIONS**

$T_J$	Max. operating junction temperature range	-40 to 150	$^\circ\text{C}$	
$T_{stg}$	Storage temperature range	-40 to 150	$^\circ\text{C}$	
$R_{thJC}$	Max. thermal resistance, dc, junction-to-case	2	deg. C/W	Based on power dissipated in both junctions
wt	Approximate weight	6.0 (0.21)	g (oz)	
	Recommended mounting torque	0.49 (4.4)	N•m/ (lbf-in.)	Typical screw mount
	Case Style	TO-247AC		

SERIES	POLARITY	
16CPF	FORWARD	
16JPF	REVERSE	

16CPF10 & 20, 16JPF10 & 20 Series

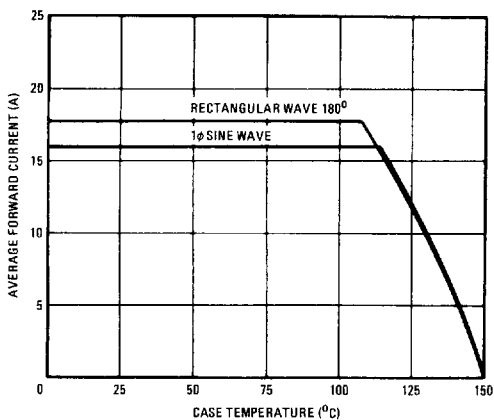


Fig. 1 – Average Forward Current Vs. Maximum Allowable Case Temperature

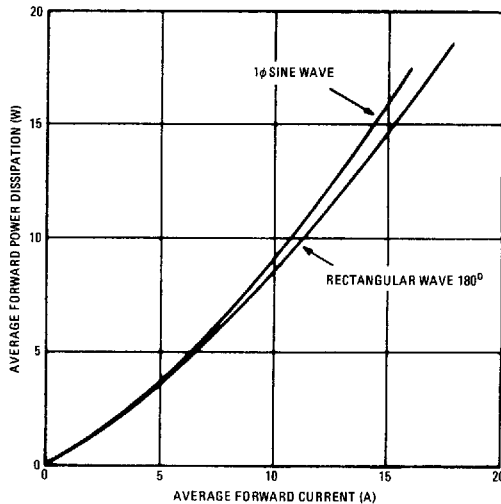


Fig. 2 – Average Forward Power Dissipation Vs. Average Forward Current

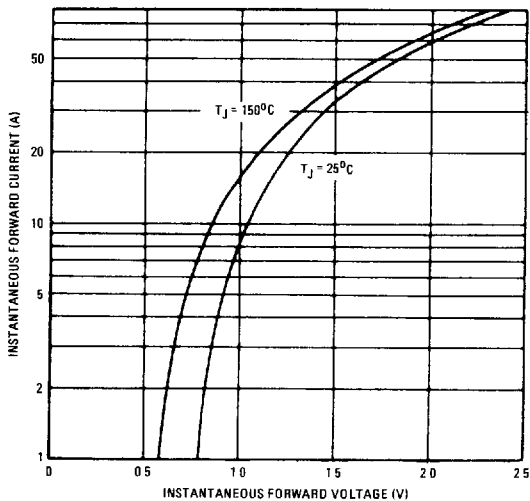


Fig. 3 – Maximum Instantaneous Forward Voltage Vs. Instantaneous Forward Current

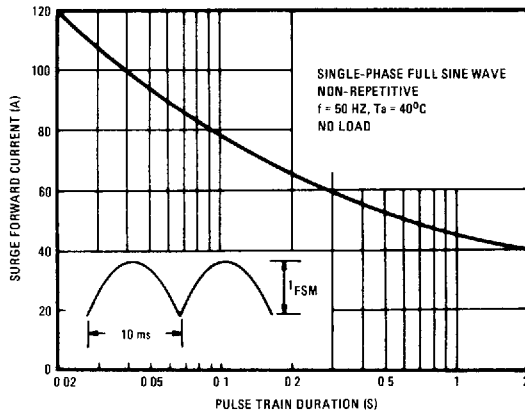


Fig. 4 – Maximum Non-Repetitive Surge Current Vs. Pulse Duration

16CPF30 & 40, 16JPF30 & 40 Series

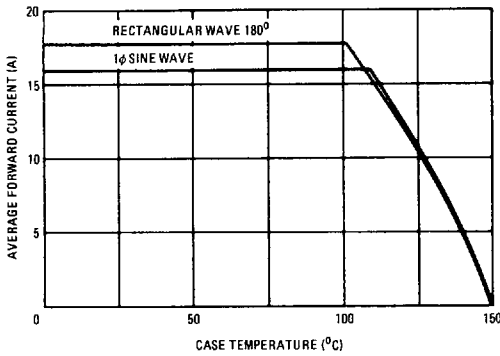


Fig. 5 - Average Forward Current Vs. Maximum Allowable Case Temperature

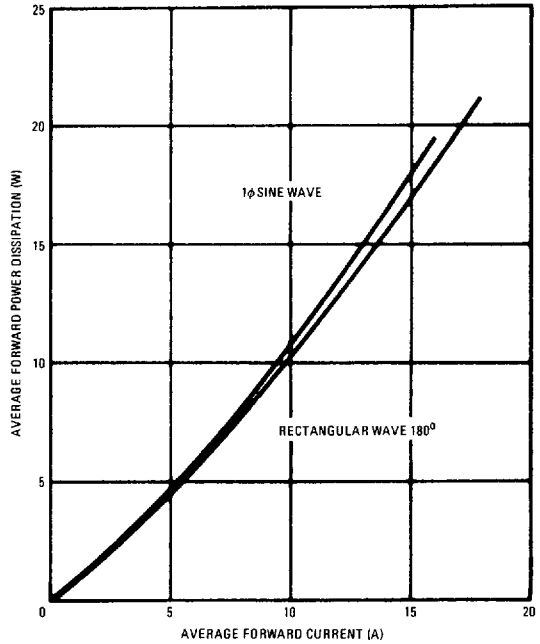


Fig. 6 - Average Forward Power Dissipation Vs. Average Forward Current

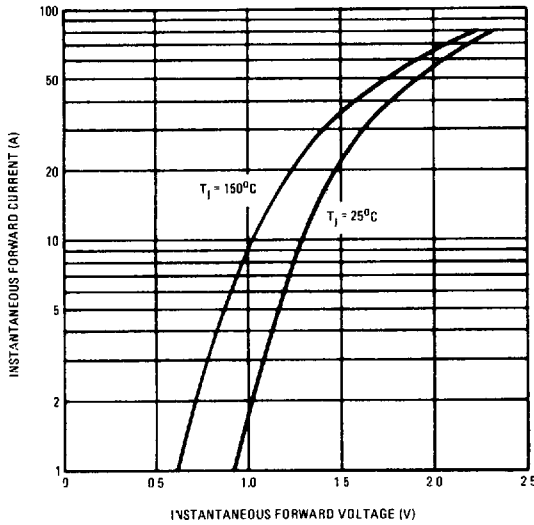


Fig. 7 - Maximum Instantaneous Forward Voltage Vs. Instantaneous Forward Current

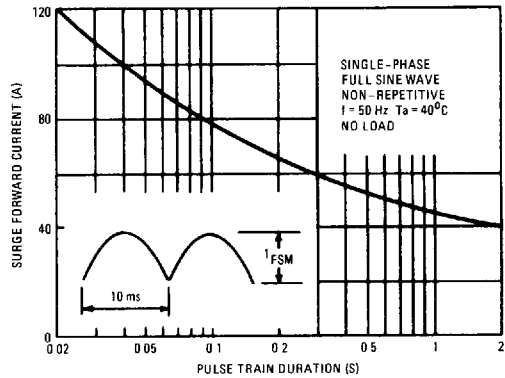


Fig. 8 - Maximum Non-Repetitive Surge Current Vs. Pulse Duration

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Date and specifications subject to change without notice.