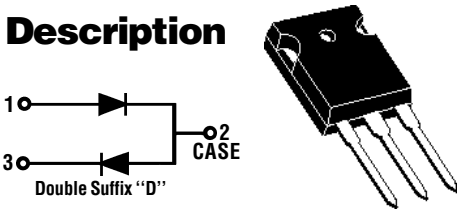
FCI Semiconductor *Data Sheet*

30 Amp ULTRAFAST RECOVERY POWER RECTIFIERS

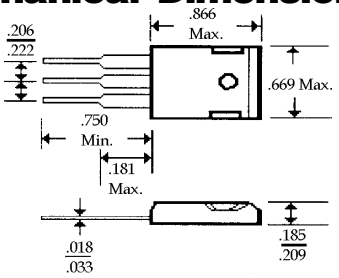
VFP30C05...30C60

Description



Mechanical Dimensions

TO-3P



(Dimensions in inches)

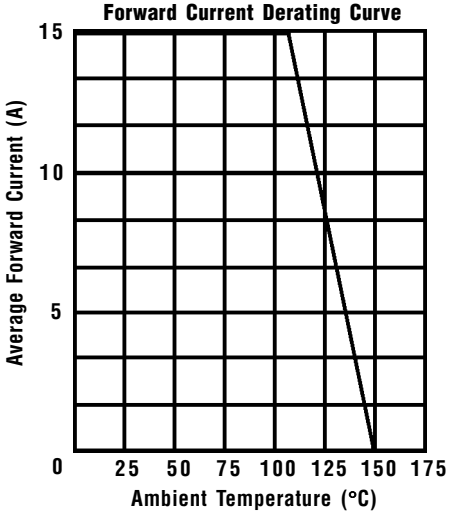
Features

- **LOW FORWARD VOLTAGE**
- **HIGH SURGE CAPABILITY**
- ULTAFAST RECOVERY GPP DIE
- **MEETS UL SPECIFICATION 94V-0**

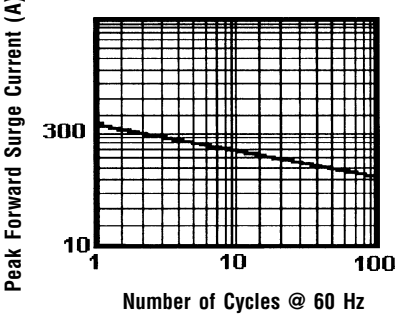
	VFP30C05---30C60								Units
Maximum Ratings	**05**	**10**	**15**	**20**	**30**	**40**	**50**	**60**	
Peak Repetitive Reverse Voltage...V_{RRM}	50	100	150	200	300	400	500	600	Volts
Working Peak Reverse Voltage...V_{RWM}	50	100	150	200	300	400	500	600	Volts
DC Blocking Voltage...V_{DC}	50	100	150	200	300	400	500	600	Volts
RMS Reverse Voltage...$V_{R(rms)}$	35	70	105	140	210	280	350	420	Volts
Average Forward Rectified Current...$I_{F(av)}$	15								Amps
T_C = 150°C @ Rated V_{DC}	30								Amps
Repetitive Peak Forward Surge Current...I_{FM} @ Rated V_{DC}, Square Wave, 20 kHz, T_C = 150°C	30								Amps
Non-Repetitive Peak Forward Surge Current...I_{FSM} @ Rated Load Cond., ½ Wave, Single Phase, 60Hz	300								Amps
Operating & Storage Temperature Range...T_J, T_{STRG}	-65 to 175								°C
Electrical Characteristics									
Maximum Forward Voltage...V_F @ I_F = 15 Amps, PW = 300µs, T_C = 150°C	< 1.0				> < 1.1			1.3 >	Volts
T_C = 25°C	< 1.4				> < 1.4			1.6 >	Volts
Maximum DC Reverse Current...I_R @ Rated DC Blocking Voltage, T_C =150°C	< 250				> <		500	>	µAmps
T_C = 25°C	< 5.0				> <		10	>	µAmps
Maximum Reverse Recovery Time...t_{RR} I_F = 1.0 Amp, di/dt = 50 Amps/µs	< 50				> <		75	>	ns

30 Amp ULTRAFAST RECOVERY POWER RECTIFIERS

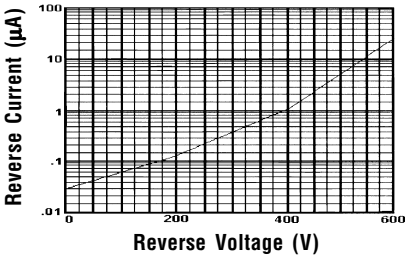
Forward Current Derating Curve



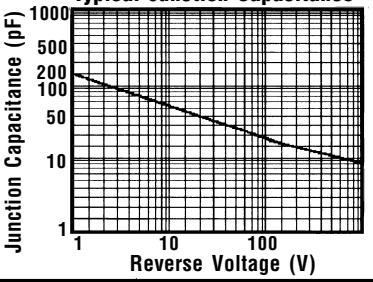
Non-Repetitive Peak Forward Surge Current



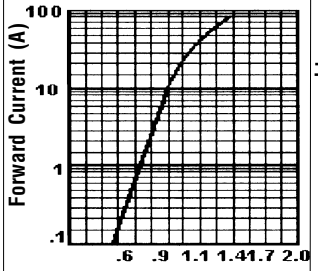
Typical Reverse Characteristics

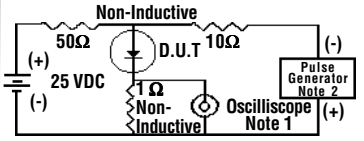


Typical Junction Capacitance



Typical Instantaneous Forward Characteristics

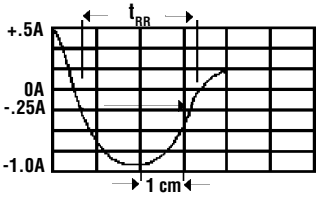




Notes:

1. Rise Time = 7 ns Max. Impedance = 1 megohm, 22 pF
2. Rise Time = 10 ns Max. Source Impedance = 50 Ohms

Reverse Recovery Characteristics



Time Base Set @ 50/100ns/cm

Ratings at 25 Deg. C ambient temperature unless otherwise specified.

Single Phase Half Wave, 60 Hz Resistive or Inductive Load.

For Capacitive Load, Derate Current by 20%.