

30EPF.., 30CPF.. Soft Recovery Series

Vishay High Power Products

Fast Soft Recovery
Rectifier Diode, 30 A



ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop	V _{FM}	30 A, T _J = 25 °C		1.41	V
Forward slope resistance	r _t	T _J = 150 °C		12.5	mΩ
Threshold voltage	V _{F(TO)}			0.9	V
Maximum reverse leakage current	I _{RM}	T _J = 25 °C	V _R = Rated V _{RRM}	0.1	mA
		T _J = 150 °C		2.0	

RECOVERY CHARACTERISTICS					
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS	
Reverse recovery time	t_{rr}	I_F at 20 Apk 100 A/ μs 25 $^{\circ}\text{C}$	160	ns	
Reverse recovery current	I_{rr}		10	A	
Reverse recovery charge	Q_{rr}		1.25	μC	
Snap factor	S	Typical	0.6		

THERMAL - MECHANICAL SPECIFICATIONS				
PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum junction and storage temperature range	T _J , T _{Stg}		- 40 to 150	°C
Maximum thermal resistance, junction to case	R _{thJC}	DC operation	0.8	°C/W
Maximum thermal resistance, junction to ambient	R _{thJA}		40	
Maximum thermal resistance, case to heatsink	R _{thCS}	Mounting surface, smooth and greased	0.2	
Approximate weight			6	g
			0.21	oz.
Mounting torque	minimum		6 (5)	kgf · cm (lbf · in)
	maximum		12 (10)	
Marking device		Case style TO-247AC JEDEC modified	30EPS02, 30CPF02	
			30EPS04, 30CPF04	
			30EPS06, 30CPF06	



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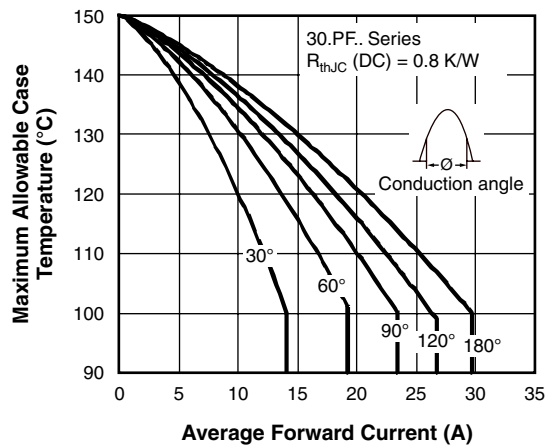


Fig. 1 - Current Rating Characteristics

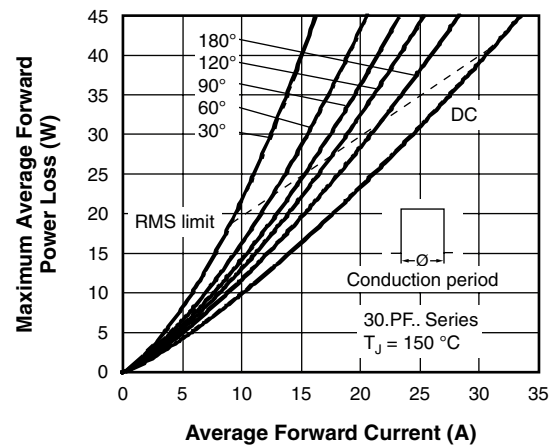


Fig. 4 - Forward Power Loss Characteristics

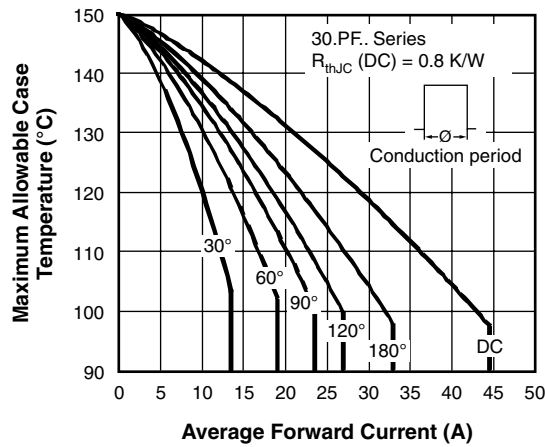


Fig. 2 - Current Rating Characteristics

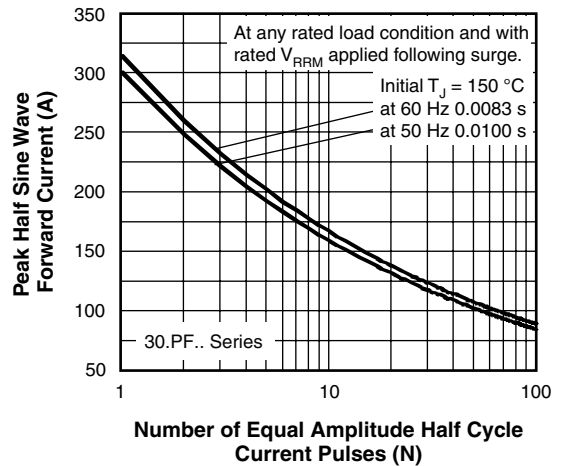


Fig. 5 - Maximum Non-Repetitive Surge Current

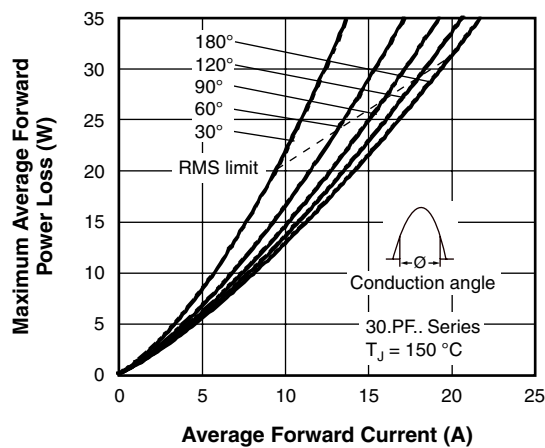


Fig. 3 - Forward Power Loss Characteristics

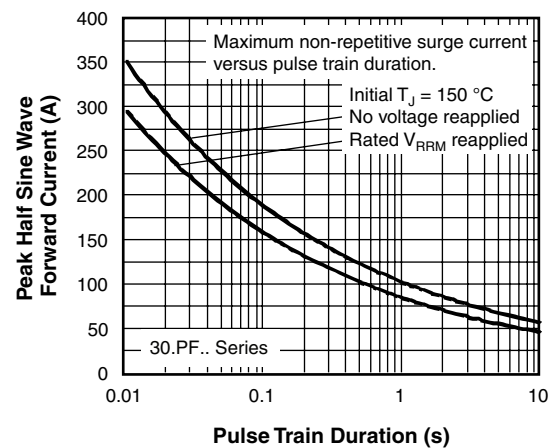


Fig. 6 - Maximum Non-Repetitive Surge Current

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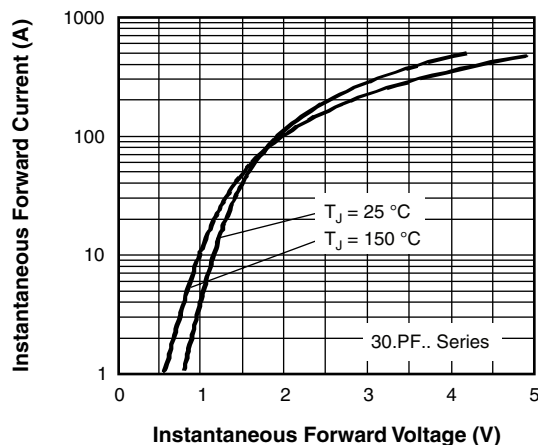


Fig. 7 - Forward Voltage Drop Characteristics

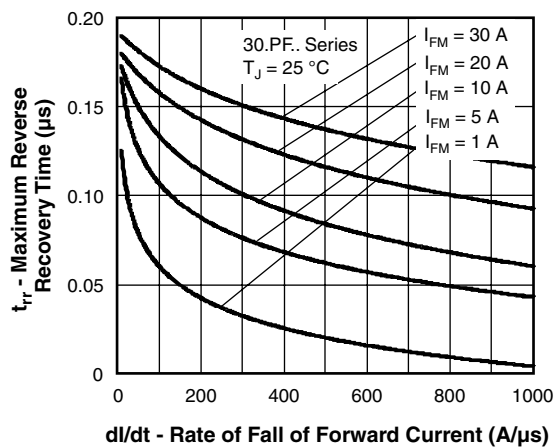


Fig. 8 - Recovery Time Characteristics, $T_J = 25\text{ }^{\circ}\text{C}$

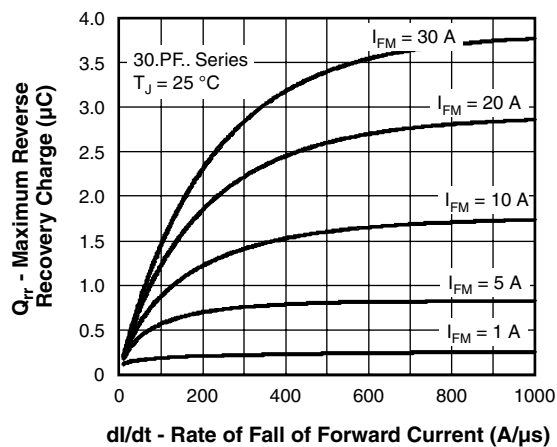


Fig. 10 - Recovery Charge Characteristics, $T_J = 25\text{ }^{\circ}\text{C}$

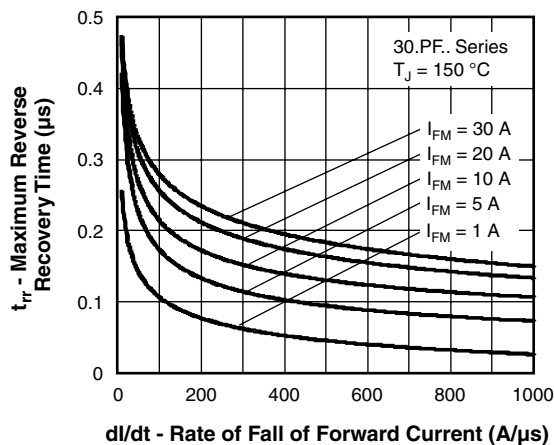


Fig. 9 - Recovery Time Characteristics, $T_J = 150\text{ }^{\circ}\text{C}$

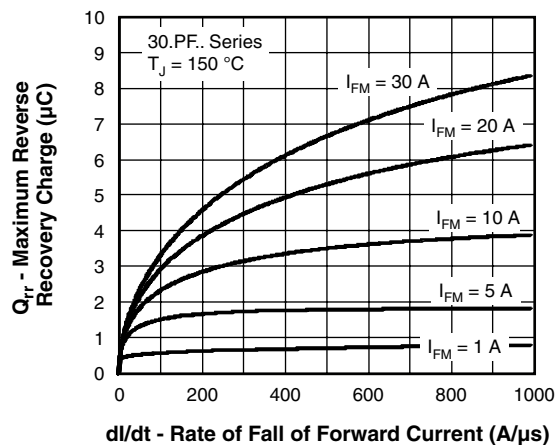


Fig. 11 - Recovery Charge Characteristics, $T_J = 150\text{ }^{\circ}\text{C}$



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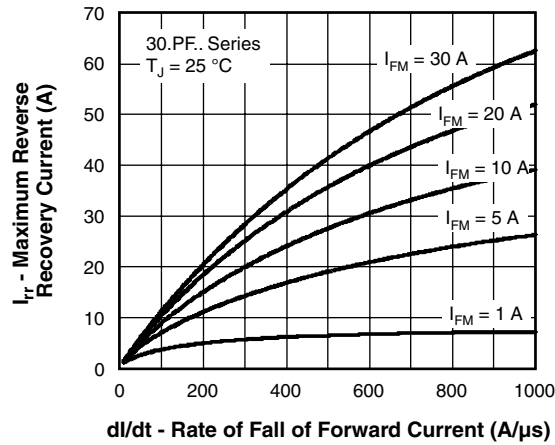


Fig. 12 - Recovery Current Characteristics, $T_J = 25\text{ °C}$

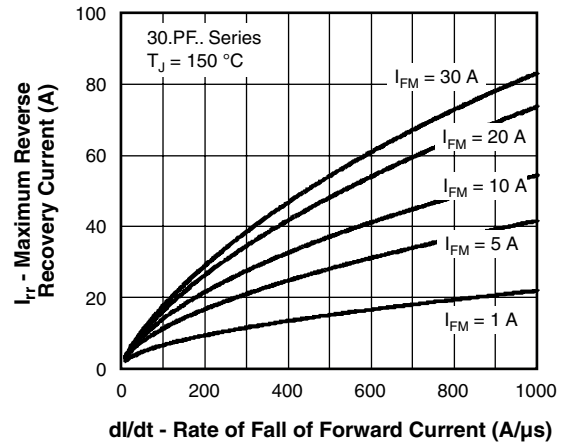


Fig. 13 - Recovery Current Characteristics, $T_J = 150\text{ °C}$

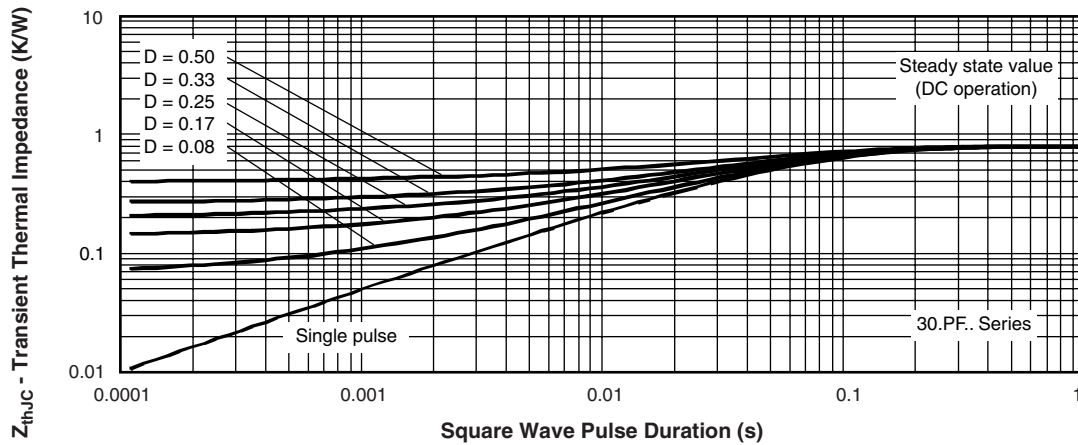


Fig. 14 - Thermal Impedance Z_{thJC} Characteristics

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ORDERING INFORMATION TABLE

Device code	30	E	P	F	06	-
	1	2	3	4	5	6
1	- Current rating (30 = 30 A)					
2	- Circuit configuration:					
	E = Single diode					
	C = Single diode, 3 pins					
3	- Package:					
	P = TO-247AC (modified)					
4	- Type of silicon:					
	F = Fast recovery					
5	- Voltage code x 100 = V_{RRM}					
6	- • None = Standard production					
	• PbF = Lead (Pb)-free					

02 = 200 V
04 = 400 V
06 = 600 V

LINKS TO RELATED DOCUMENTS		
Dimensions	TO-247AC modified	www.vishay.com/doc?95253
	TO-247AC	www.vishay.com/doc?95223
Part marking information	TO-247AC modified	www.vishay.com/doc?95255
	TO-247AC	www.vishay.com/doc?95226



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