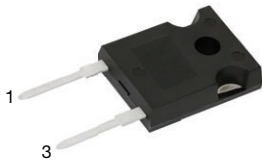
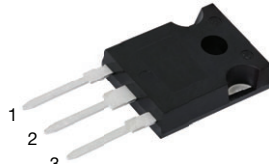
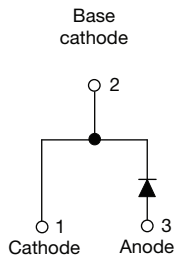
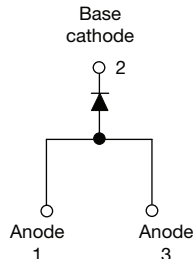


Fast Soft Recovery Rectifier Diode, 30 A


TO-247AC 2L

TO-247AC 3L

VS-30EPF0...

VS-30APF0...

FEATURES

- Glass passivated pellet chip junction
- 150 °C max. operating junction temperature
- Low forward voltage drop and short reverse recovery time
- Designed and qualified according to JEDEC®-JESD 47
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE
Available

APPLICATIONS

These devices are intended for use in output rectification and freewheeling in inverters, choppers and converters as well as in input rectification where severe restrictions on conducted EMI should be met.

DESCRIPTION

The VS-30EPF06-M3 and VS-30APF06-M3 soft recovery rectifier series has been optimized for combined short reverse recovery time and low forward voltage drop.

The glass passivation ensures stable reliable operation in the most severe temperature and power cycling conditions.

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	30 A
V_R	200 V, 400 V, 600 V
V_F at I_F	1.41 V
I_{FSM}	320 A
t_{rr}	60 ns
T_J max.	150 °C
Package	TO-247AC 2L, TO-247AC 3L
Circuit configuration	Single
Snap factor	0.6

MAJOR RATINGS AND CHARACTERISTICS			
SYMBOL	CHARACTERISTICS	VALUES	UNITS
$I_{F(AV)}$	Sinusoidal waveform	30	A
V_{RRM}		200 to 600	V
I_{FSM}		320	A
V_F	10 A, $T_J = 25$ °C	1.2	V
t_{rr}	1 A, 100 A/μs	60	ns
T_J		-40 to +150	°C

VOLTAGE RATINGS			
PART NUMBER	V_{RRM} , MAXIMUM PEAK REVERSE VOLTAGE V	V_{RSM} , MAXIMUM NON-REPETITIVE PEAK REVERSE VOLTAGE V	I_{RRM} AT 150 °C mA
VS-30EPF02-M3, VS-30APF02-M3	200	300	5
VS-30EPF04-M3, VS-30APF04-M3	400	500	
VS-30EPF06-M3, VS-30APF06-M3	600	700	

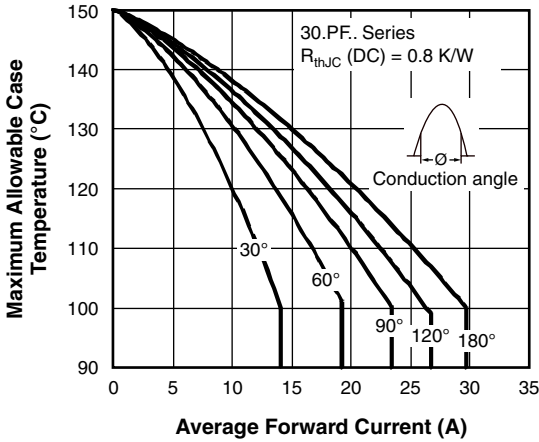


Fig. 1 - Current Rating Characteristics

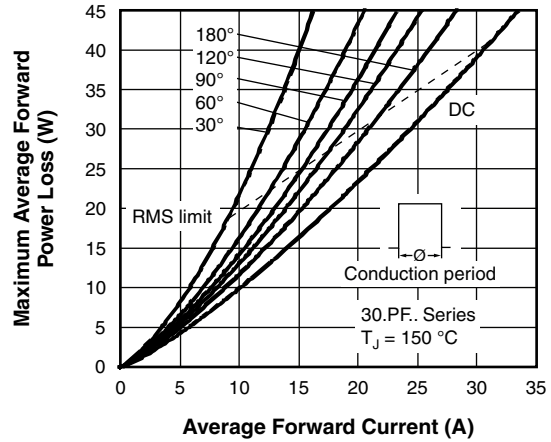


Fig. 4 - Forward Power Loss Characteristics

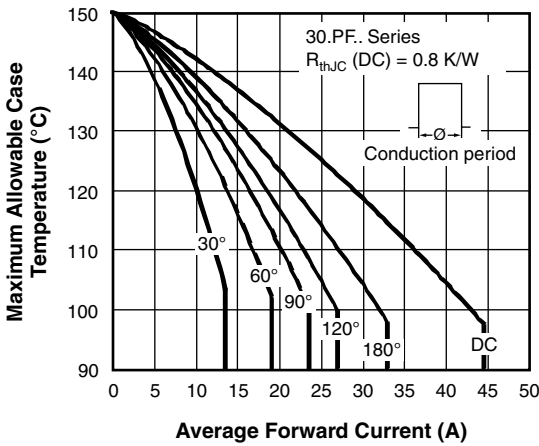


Fig. 2 - Current Rating Characteristics

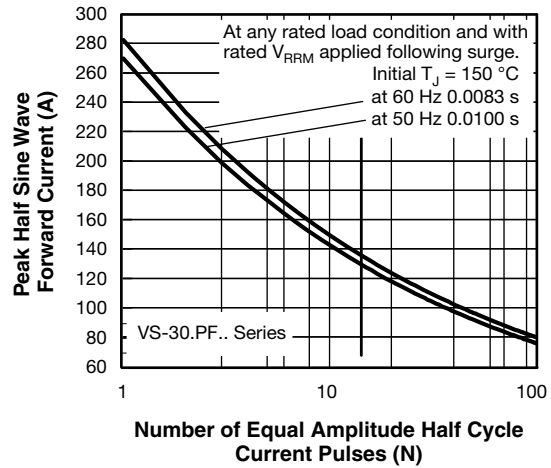


Fig. 5 - Maximum Non-Repetitive Surge Current

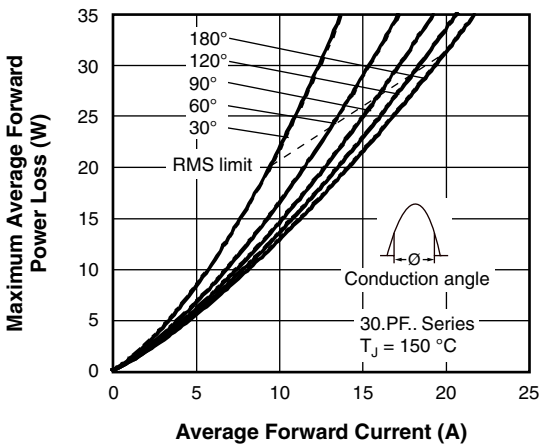


Fig. 3 - Forward Power Loss Characteristics

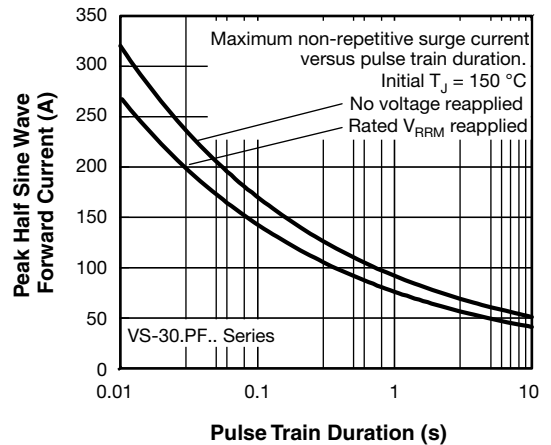


Fig. 6 - Maximum Non-Repetitive Surge Current

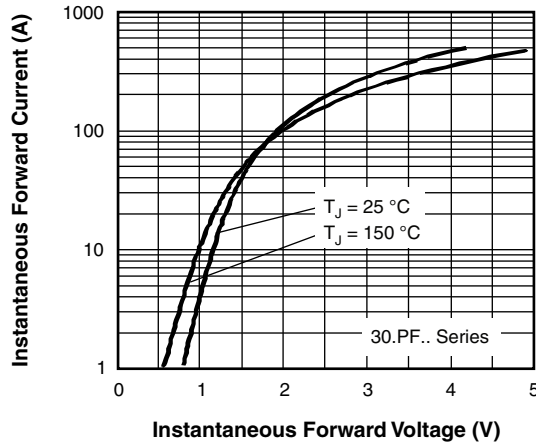


Fig. 7 - Forward Voltage Drop Characteristics

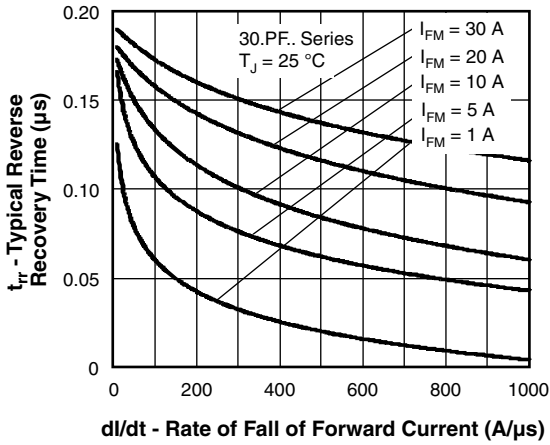


Fig. 8 - Recovery Time Characteristics, $T_J = 25\text{ }^\circ\text{C}$

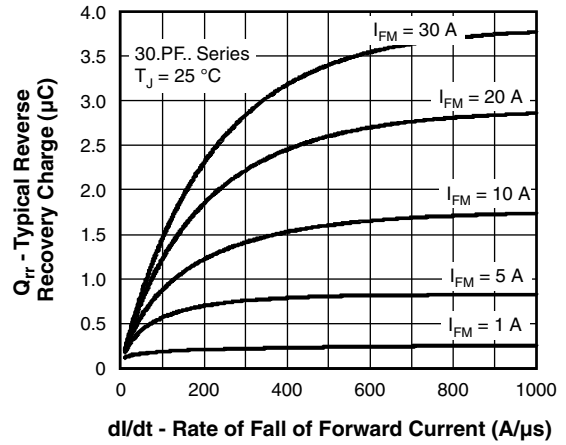


Fig. 10 - Recovery Charge Characteristics, $T_J = 25\text{ }^\circ\text{C}$

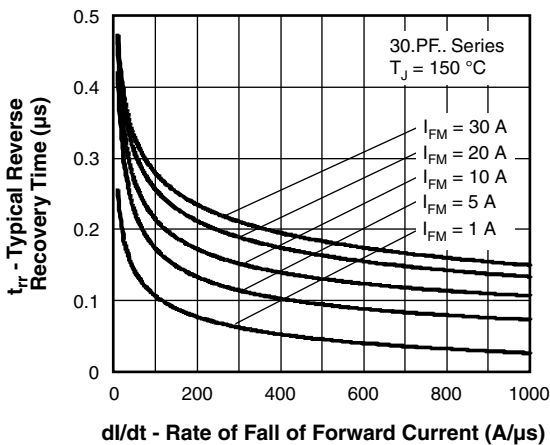


Fig. 9 - Recovery Time Characteristics, $T_J = 150\text{ }^\circ\text{C}$

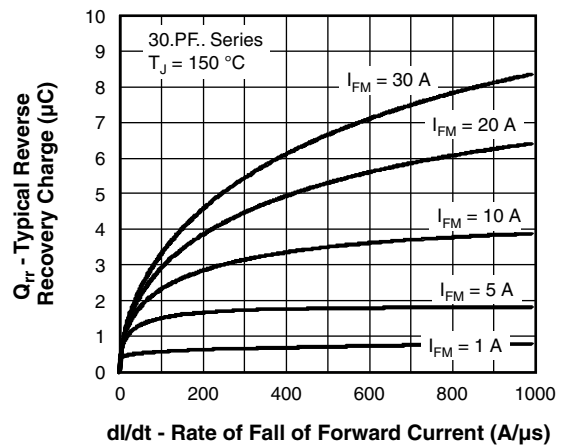


Fig. 11 - Recovery Charge Characteristics, $T_J = 150\text{ }^\circ\text{C}$

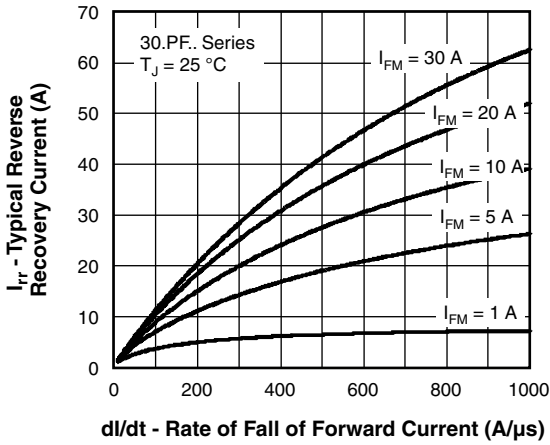


Fig. 12 - Recovery Current Characteristics, $T_J = 25\text{ }^\circ\text{C}$

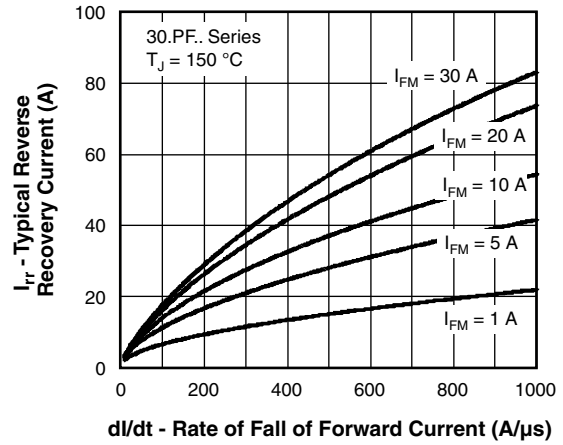


Fig. 13 - Recovery Current Characteristics, $T_J = 150\text{ }^\circ\text{C}$

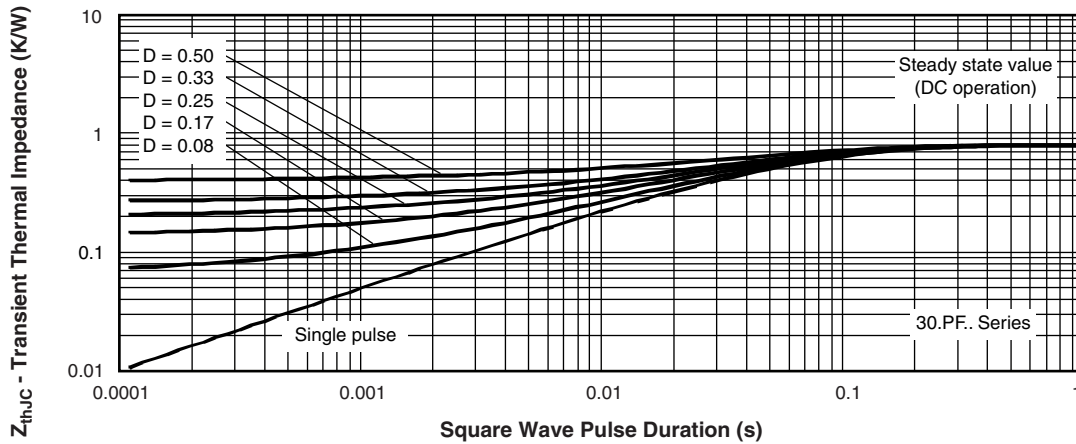
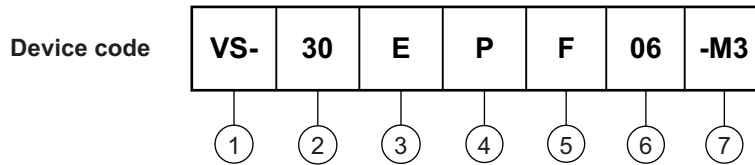


Fig. 14 - Thermal Impedance Z_{thJC} Characteristics



ORDERING INFORMATION TABLE



- 1** - Vishay Semiconductors product
- 2** - Current rating (30 = 30 A)
- 3** - Circuit configuration:
E = single diode, 2 pins
A = single diode, 3 pins
- 4** - Package:
P = TO-247AC 3L / TO-247AC 2L
- 5** - Type of silicon:
F = fast recovery
- 6** - Voltage code x 100 = V_{RRM}

02 = 200 V
04 = 400 V
06 = 600 V
- 7** - Environmental digit:
-M3 = halogen-free, RoHS-compliant, and terminations lead (Pb)-free

ORDERING INFORMATION (Example)			
PREFERRED P/N	QUANTITY PER T/R	MINIMUM ORDER QUANTITY	PACKAGING DESCRIPTION
VS-30EPF02-M3	25	500	Antistatic plastic tubes
VS-30APF02-M3	25	500	Antistatic plastic tubes
VS-30EPF04-M3	25	500	Antistatic plastic tubes
VS-30APF04-M3	25	500	Antistatic plastic tubes
VS-30EPF06-M3	25	500	Antistatic plastic tubes
VS-30APF06-M3	25	500	Antistatic plastic tubes

LINKS TO RELATED DOCUMENTS		
Dimensions	TO-247AC 2L	www.vishay.com/doc?96144
	TO-247AC 3L	www.vishay.com/doc?96138
Part marking information	TO-247AC 2L	www.vishay.com/doc?95648
	TO-247AC 3L	www.vishay.com/doc?95007



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