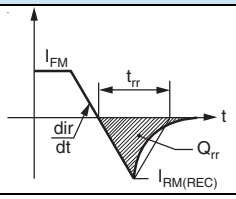
ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum average forward current	$I_{F(AV)}$	T_C = 98 °C, 180° conduction half sine wave	10	A
Maximum peak one cycle non-repetitive surge current	I_{FSM}	10 ms sine pulse, rated V_{RRM} applied	150	
		10 ms sine pulse, no voltage reapplied	160	
Maximum I^2t for fusing	I^2t	10 ms sine pulse, rated V_{RRM} applied	112.5	A^2s
		10 ms sine pulse, no voltage reapplied	160	
Maximum $I^2\sqrt{t}$ for fusing	$I^2\sqrt{t}$	t = 0.1 to 10 ms, no voltage reapplied	1600	$A^2\sqrt{s}$

ELECTRICAL SPECIFICATIONS

PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop	V_{FM}	10 A, T_J = 25 °C		1.2	V
Forward slope resistance	r_t	T_J = 150 °C		23.5	mΩ
Threshold voltage	$V_{F(TO)}$			0.85	V
Maximum reverse leakage current	I_{RM}	T_J = 25 °C	V_R = Rated V_{RRM}	0.1	mA
		T_J = 150 °C		3.0	

RECOVERY CHARACTERISTICS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS	
Reverse recovery time	t_{rr}	I_F at 10 A_{pk} 25 A/µs 25 °C	200	ns	
Reverse recovery current	I_{rr}		2.75	A	
Reverse recovery charge	Q_{rr}		0.32	µC	
Snap factor	S		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	2.5	°C/W
Maximum thermal resistance junction to ambient	R_{thJA}		62	
Typical thermal resistance, case to heatsink	R_{thCS}	Mounting surface, smooth, and greased	0.5	
Approximate weight			2	g
			0.07	oz.
Mounting torque — minimum			6 (5)	kgf · cm (lbf · in)
Mounting torque — maximum			12 (10)	
Marking device		Case style TO-220 FULL-PAK	10ETF02FP 10ETF04FP 10ETF06FP	

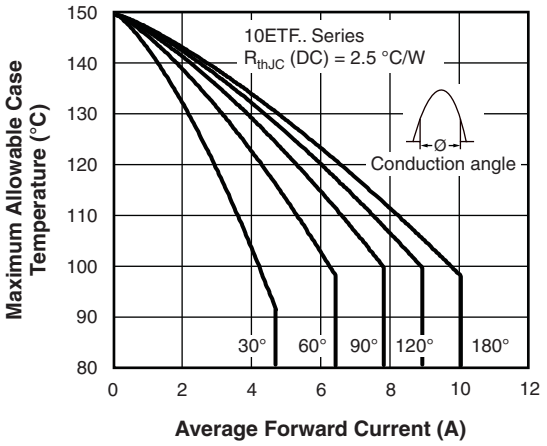


Fig. 1 - Current Rating Characteristics

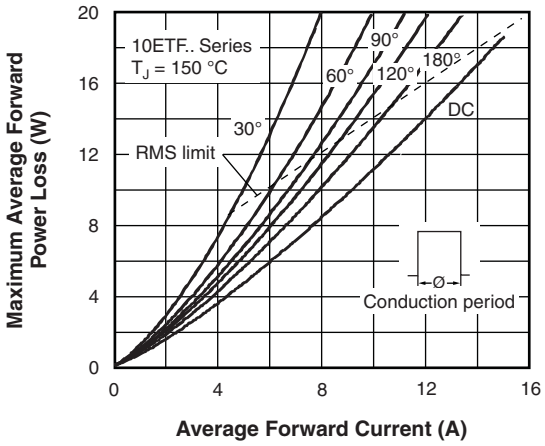


Fig. 4 - Forward Power Loss Characteristics

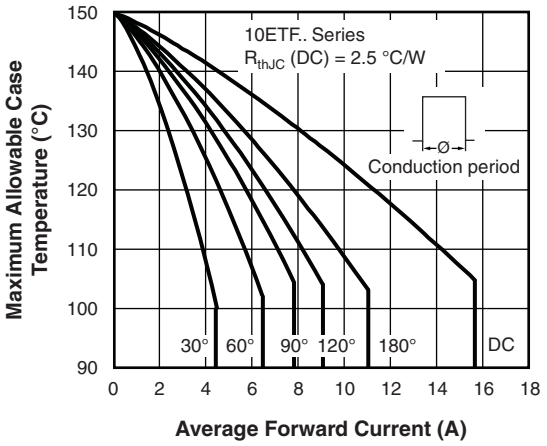


Fig. 2 - Current Rating Characteristics

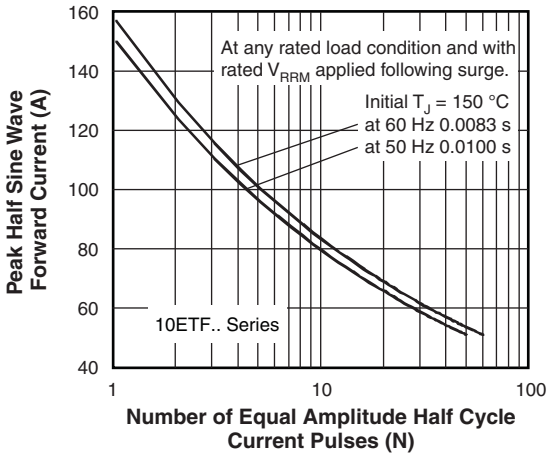


Fig. 5 - Maximum Non-Repetitive Surge Current

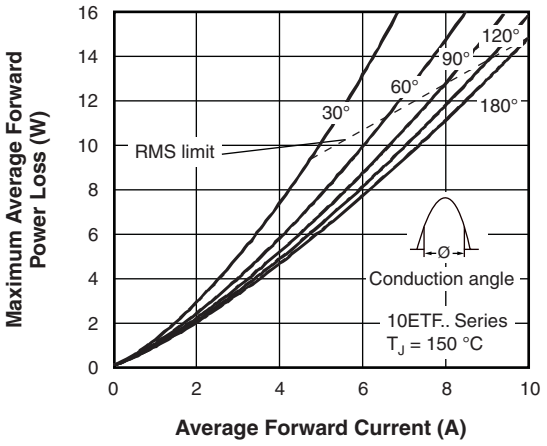


Fig. 3 - Forward Power Loss Characteristics

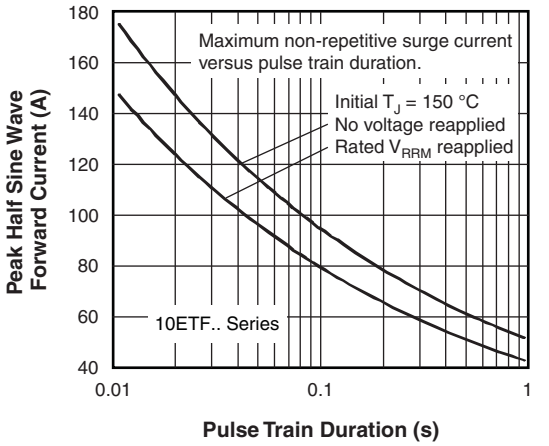


Fig. 6 - Maximum Non-Repetitive Surge Current

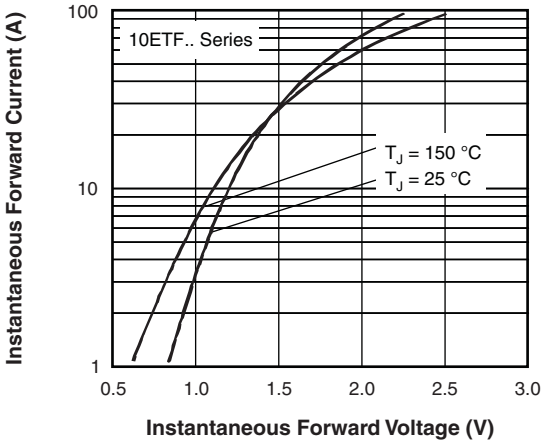


Fig. 7 - Forward Voltage Drop Characteristics

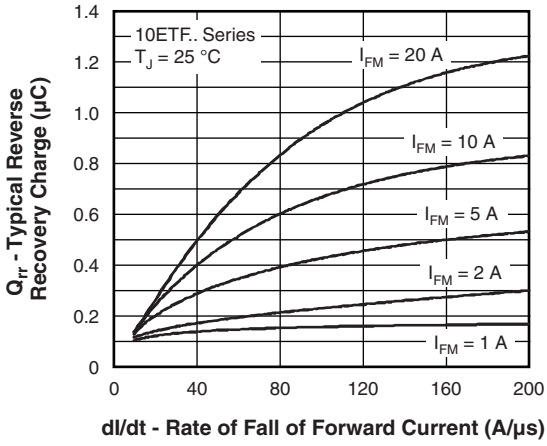


Fig. 10 - Recovery Charge Characteristics, T_J = 25 °C

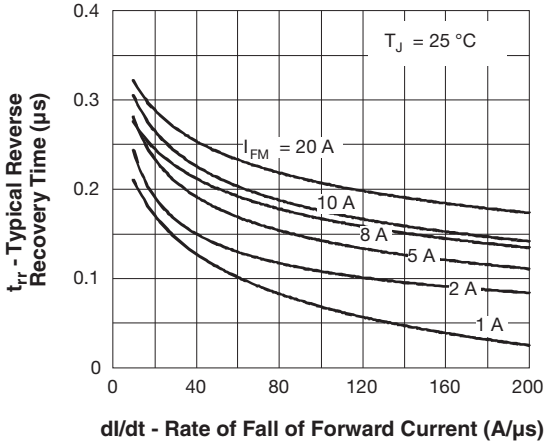


Fig. 8 - Recovery Time Characteristics, T_J = 25 °C

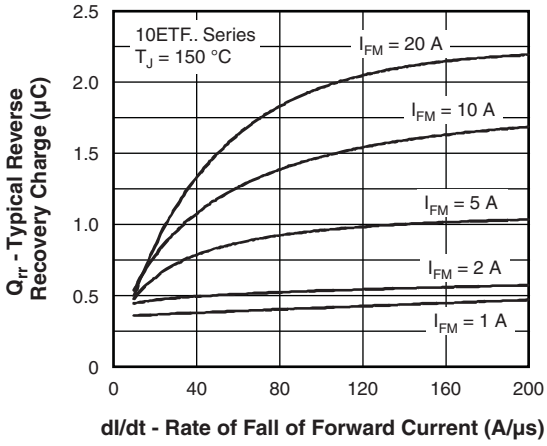


Fig. 11 - Recovery Charge Characteristics, T_J = 150 °C

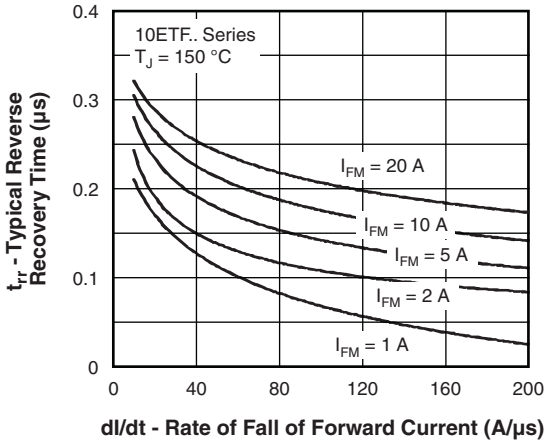


Fig. 9 - Recovery Time Characteristics, T_J = 150 °C

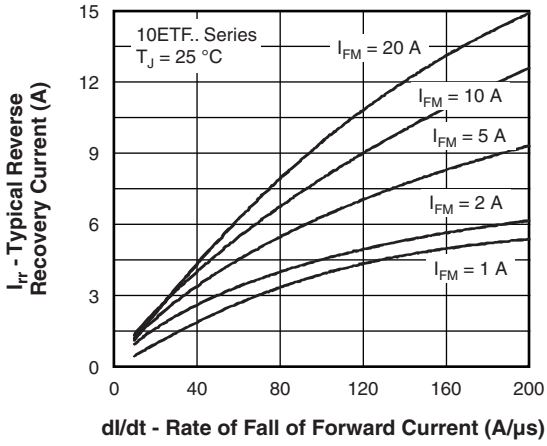


Fig. 12 - Recovery Current Characteristics, T_J = 25 °C

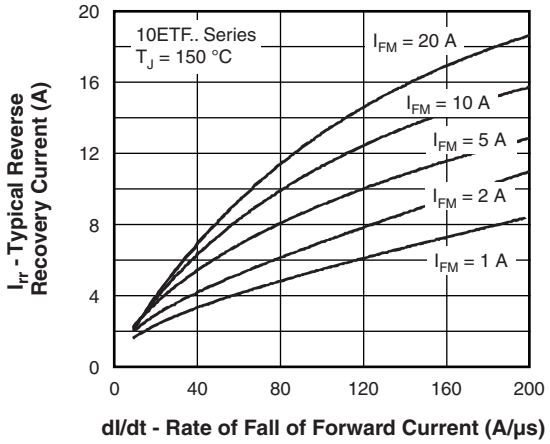


Fig. 13 - Recovery Current Characteristics, T_J = 150 °C

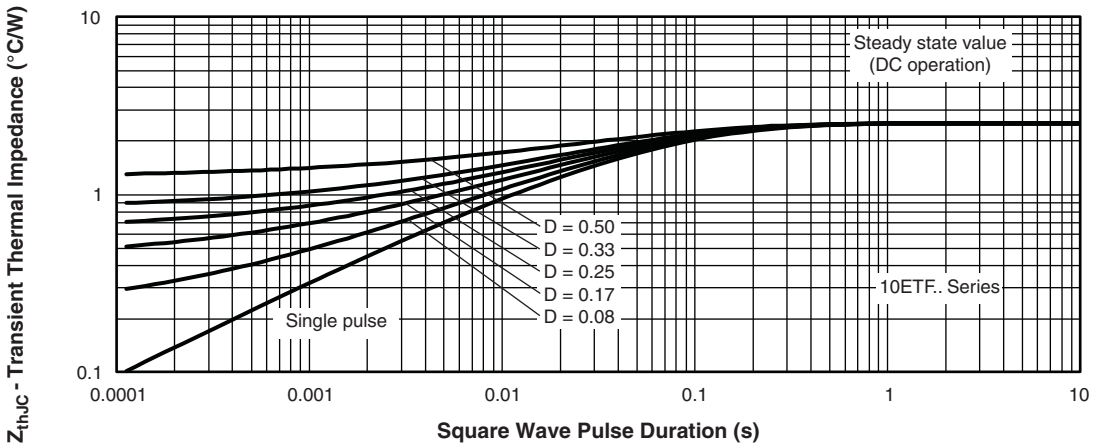
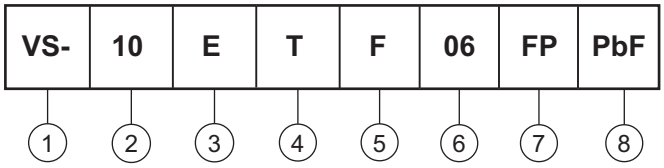


Fig. 14 - Thermal Impedance Z_{thJC} Characteristics

ORDERING INFORMATION TABLE

Device code



1 - Vishay Semiconductors product

2 - Current rating (10 = 10 A)

3 - Circuit configuration:
E = single diode

4 - Package:
T = TO-220

5 - Type of silicon:
F = fast soft recovery rectifier

6 - Voltage code x 100 = V_{RRM}
02 = 200 V
04 = 400 V
06 = 600 V

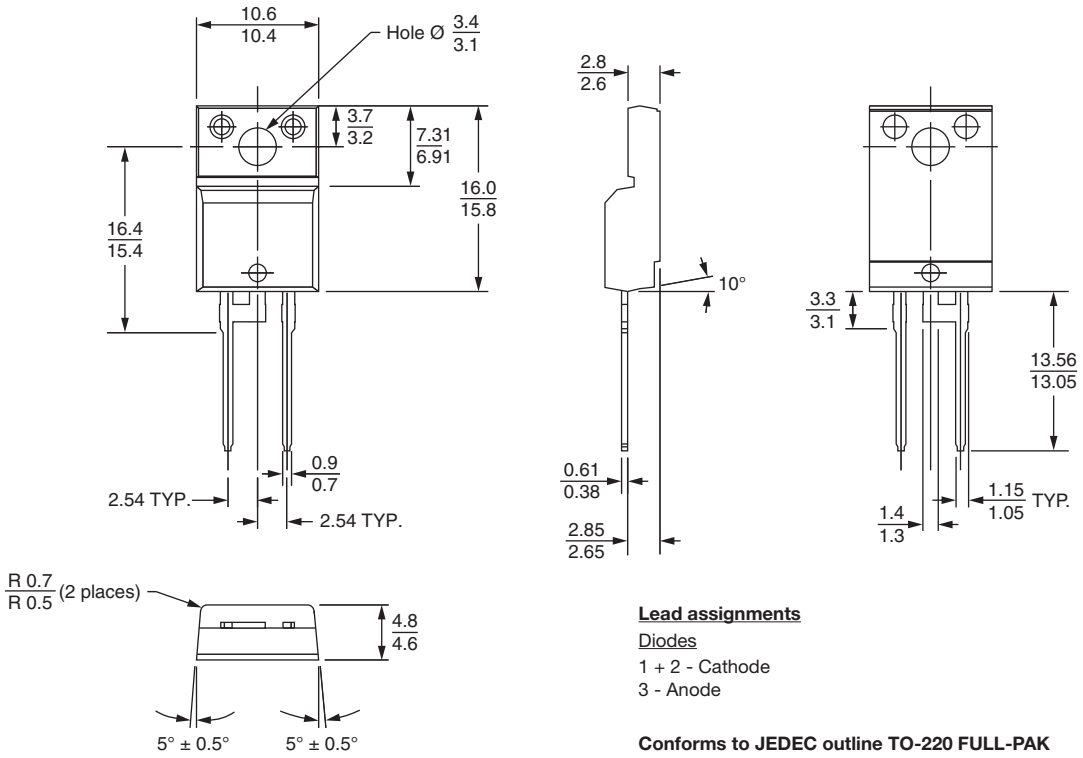
7 - FULL-PAK

8 - Environmental digit:
- PbF = lead (Pb)-free and RoHS-compliant
- -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-10ETF02FPPbF	50	1000	Antistatic plastic tubes
VS-10ETF02FP-M3	50	1000	Antistatic plastic tubes
VS-10ETF04FPPbF	50	1000	Antistatic plastic tubes
VS-10ETF04FP-M3	50	1000	Antistatic plastic tubes
VS-10ETF06FPPbF	50	1000	Antistatic plastic tubes
VS-10ETF06FP-M3	50	1000	Antistatic plastic tubes

LINKS TO RELATED DOCUMENTS		
Dimensions		www.vishay.com/doc?95005
Part marking information	TO-220 FP PbF	www.vishay.com/doc?95009
	TO-220 FP -M3	www.vishay.com/doc?95440

DIMENSIONS in millimeters



Lead assignments

Diodes

1 + 2 - Cathode

3 - Anode

Conforms to JEDEC outline TO-220 FULL-PAK

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