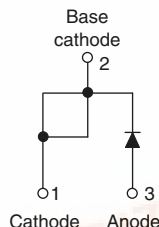


Input Rectifier Diode, 10 A



TO-220AC



FEATURES

- Compliant to RoHS directive 2002/95/EC
- Designed and qualified for industrial level



APPLICATIONS

- Input rectification
- Vishay Semiconductors switches and output rectifiers which are available in identical package outlines

RoHS*
COMPLIANT

DESCRIPTION

The 10ETS..PbF rectifier series has been optimized for very low forward voltage drop, with moderate leakage.

The glass passivation technology used has reliable operation up to 150 °C junction temperature.

PRODUCT SUMMARY

V_F at 10 A	< 1.1 V
I_{FSM}	200 A
V_{RRM}	800 V/1200 V

OUTPUT CURRENT IN TYPICAL APPLICATIONS

APPLICATIONS	SINGLE-PHASE BRIDGE	THREE-PHASE BRIDGE	UNITS
Capacitive input filter $T_A = 55\text{ °C}$, $T_J = 125\text{ °C}$ common heatsink of 1 °C/W	12.0	16.0	A

MAJOR RATINGS AND CHARACTERISTICS

SYMBOL	CHARACTERISTICS	VALUES	UNITS
$I_{F(AV)}$	Sinusoidal waveform	10	A
V_{RRM}		800/1200	V
I_{FSM}		200	A
V_F	10 A, $T_J = 25\text{ °C}$	1.1	V
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
10ETS08PbF	800	900	0.5
10ETS12PbF	1200	1300	

ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	TEST CONDITIONS	VALUES	UNITS
Maximum average forward current	$I_{F(AV)}$	$T_C = 105\text{ °C}$, 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	170	
		10 ms sine pulse, no voltage reapplied	200	
Maximum I^2t for fusing	I^2t	10 ms sine pulse, rated V_{RRM} applied	130	A ² s
		10 ms sine pulse, no voltage reapplied	145	
Maximum $I^2\sqrt{t}$ for fusing	$I^2\sqrt{t}$	$t = 0.1\text{ ms}$ to 10 ms, no voltage reapplied	1450	A ² √s

* Pb containing terminations are not RoHS compliant, exemptions may apply



10ETS08PbF, 10ETS12PbF High Voltage Series



Vishay Semiconductor Diodes Division
Vishay Silicon Rectifiers PbF High Voltage Series 10 A

ELECTRICAL SPECIFICATIONS					
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES	UNITS
Maximum forward voltage drop	V _{FM}	10 A, T _J = 25 °C		1.1	V
Forward slope resistance	r _t	T _J = 150 °C		20	mΩ
Threshold voltage	V _{F(TO)}			0.82	V
Maximum reverse leakage current	I _{RM}	T _J = 25 °C	V _R = Rated V _{RRM}	0.05	mA
		T _J = 150 °C		0.50	

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 (PCB mount)	R _{thJA} ⁽¹⁾		62	
Soldering temperature	T _S		240	°C
Approximate weight			2	g
			0.07	oz.
Marking device		Case style TO-220AC	10ETS08	
			10ETS12	

Note

(1) When mounted on 1" square (650 mm²) PCB of FR-4 or G-10 material 4 oz. (140 μm) copper 40 $^{\circ}\text{C}/\text{W}$
For recommended footprint and soldering techniques refer to application note #AN-994

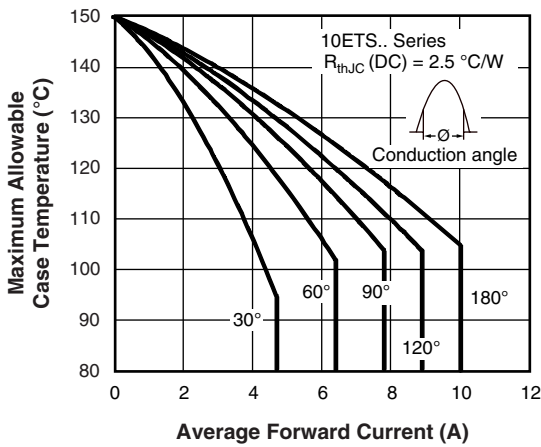


Fig. 1 - Current Rating Characteristics

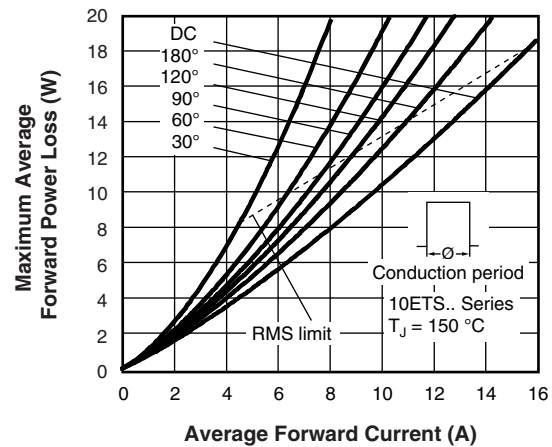


Fig. 4 - Forward Power Loss Characteristics

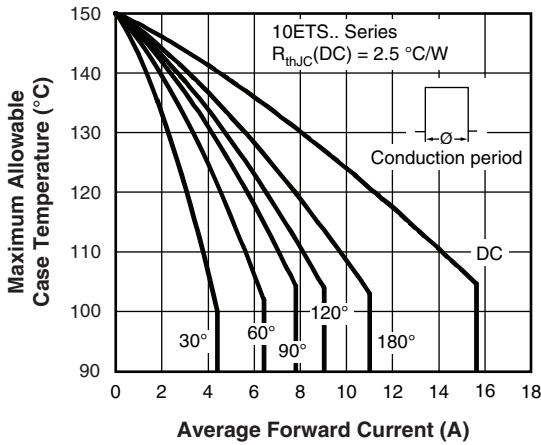


Fig. 2 - Current Rating Characteristics

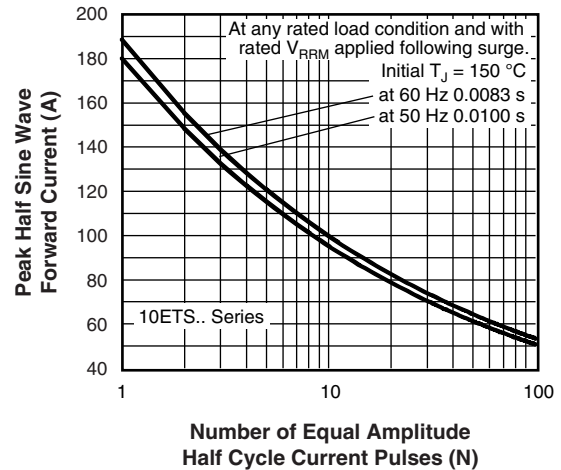


Fig. 5 - Maximum Non-Repetitive Surge Current

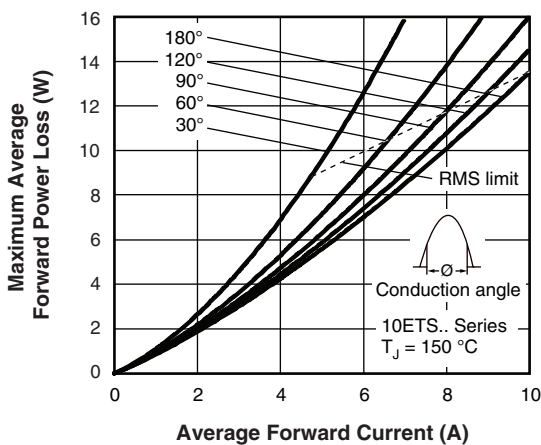


Fig. 3 - Forward Power Loss Characteristics

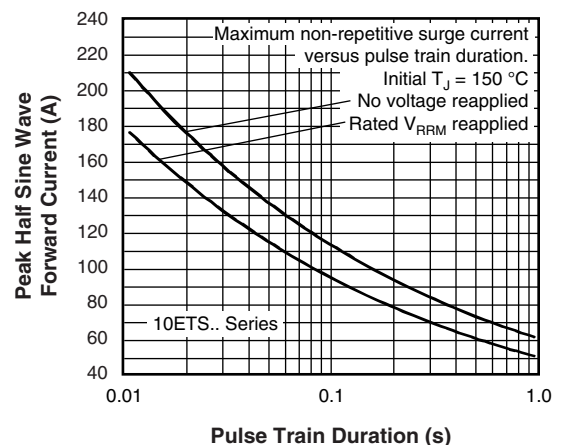


Fig. 6 - Maximum Non-Repetitive Surge Current

10ETS08PbF, 10ETS12PbF High Voltage Series



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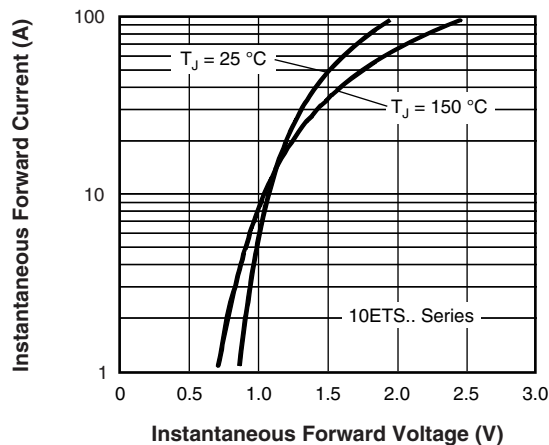


Fig. 7 - Forward Voltage Drop Characteristics

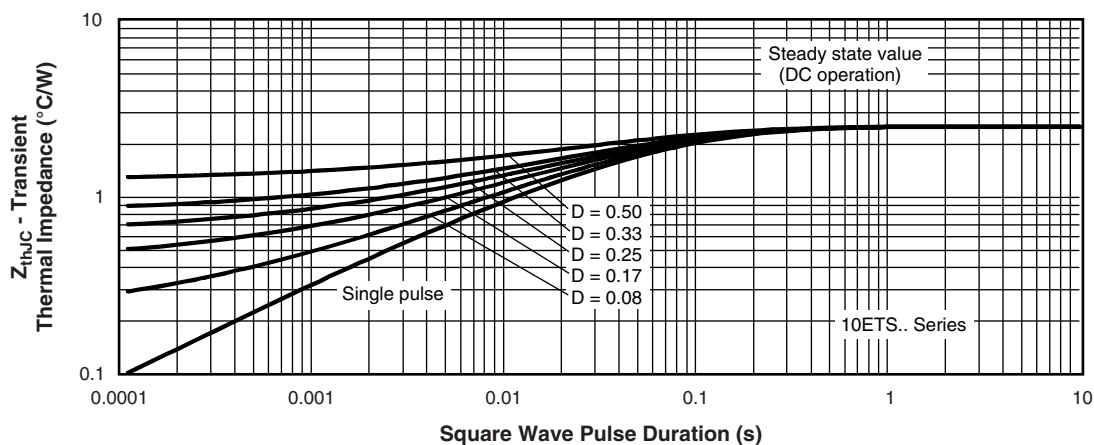


Fig. 8 - Thermal Impedance Z_{thJC} Characteristics



10ETS08PbF, 10ETS12PbF High Voltage Series

查询"10ETS08PbF, 10ETS12PbF High Voltage Series" (共2页)

Input Rectifier Diode, 10 A

Vishay Semiconductors

ORDERING INFORMATION TABLE

Device code	10	E	T	S	12	PbF
	1	2	3	4	5	6
1	- Current rating (10 = 10 A)					
2	- Circuit configuration: E = Single diode					
3	- Package: T = TO-220AC					
4	- Type of silicon: S = Standard recovery rectifier					
5	- Voltage code x 100 = V_{RRM}					
6	- • None = Standard production • PbF = Lead (Pb)-free					

08 = 800 V
12 = 1200 V

LINKS TO RELATED DOCUMENTS	
Dimensions	www.vishay.com/doc?95221
Part marking information	www.vishay.com/doc?95224



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