



FORWARD CONDUCTION CONDUCTION							
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES GBPC25	VALUES GBPC35	UNITS	
Maximum DC output current at case temperature	I <sub>O</sub>	Resistive or inductive load		25	35	A	
		Capacitive load		20	28		
				60	55	°C	
Maximum peak, one-cycle non-repetitive forward current	I <sub>FSM</sub>	t = 10 ms	No voltage reapplied	Initial T <sub>J</sub> = T <sub>J</sub> maximum	400	475	A
		t = 8.3 ms					
		t = 10 ms	100 % V <sub>RRM</sub> reapplied		335	400	
		t = 8.3 ms					
Maximum I <sup>2</sup> t for fusing	I <sup>2</sup> t	t = 10 ms	No voltage reapplied	Initial T <sub>J</sub> = T <sub>J</sub> maximum	790	1130	A <sup>2</sup> s
		t = 8.3 ms					
		t = 10 ms	100 % V <sub>RRM</sub> reapplied		560	800	
		t = 8.3 ms					
Maximum I <sup>2</sup> √t for fusing	I <sup>2</sup> √t	I <sup>2</sup> t for time t <sub>x</sub> = I <sup>2</sup> √t × √t <sub>x</sub> ; 0.1 ≤ t <sub>x</sub> ≤ 10 ms, V <sub>RRM</sub> = 0 V		7.9	11.3	kA <sup>2</sup> √s	
Low level of threshold voltage	V <sub>F(TO)1</sub>	(16.7 % × π × I <sub>F(AV)</sub> < I < π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		0.76	0.77	V	
High level of threshold voltage	V <sub>F(TO)2</sub>	(I > π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		0.89	0.92		
Low level forward slope resistance	r <sub>t1</sub>	(16.7 % × π × I <sub>F(AV)</sub> < I < π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		8.2	4.852	mΩ	
High level forward slope resistance	r <sub>t2</sub>	(I > π × I <sub>F(AV)</sub> ), T <sub>J</sub> maximum		6.8	3.867		
Maximum forward voltage drop	V <sub>FM</sub>	T <sub>J</sub> = 25 °C, I <sub>FM</sub> = I <sub>Favg</sub> (arm)		1.1	1.1	V	
Maximum DC reverse current	I <sub>RRM</sub>	T <sub>J</sub> = 25 °C, per diode at V <sub>RRM</sub>		5.0		μA	
RMS isolation voltage base plate	V <sub>INS</sub>	f = 50 Hz, t = 1 s		2700		V	

THERMAL AND MECHANICAL SPECIFICATIONS						
PARAMETER	SYMBOL	TEST CONDITIONS		VALUES GBPC25	VALUES GBPC35	UNITS
Junction and storage temperature range	T <sub>J</sub> , T <sub>Stg</sub>			-55 to +150		°C
Maximum thermal resistance, junction to case per bridge	R <sub>thJC</sub>	DC operation		1.7	1.4	K/W
Maximum thermal resistance, case to heatsink	R <sub>thCS</sub>	Mounting surface, smooth, flat and greased		0.2		
Approximate weight				16		g
Mounting torque ± 10 %		Bridge to heatsink		2.0		N · m (lbf · in)

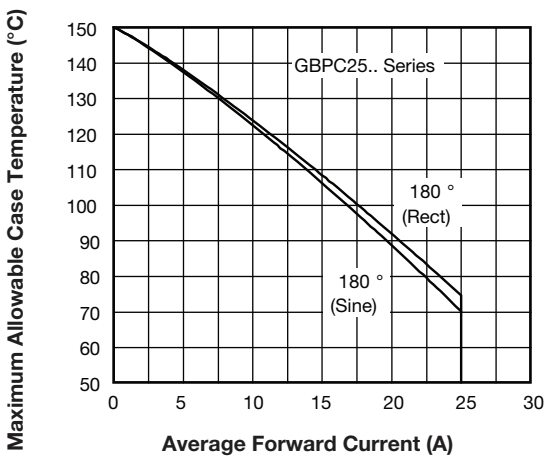


Fig. 1 - Current Ratings Characteristics

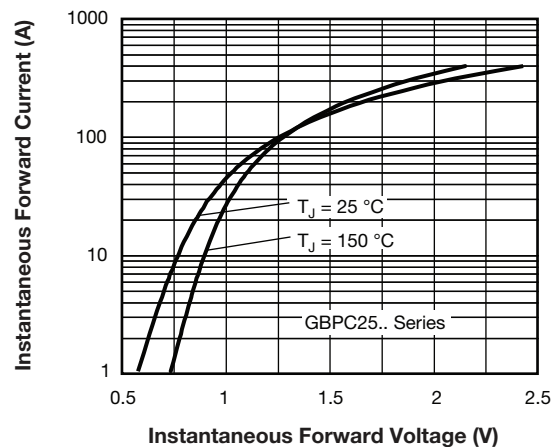


Fig. 2 - Forward Voltage Drop Characteristics

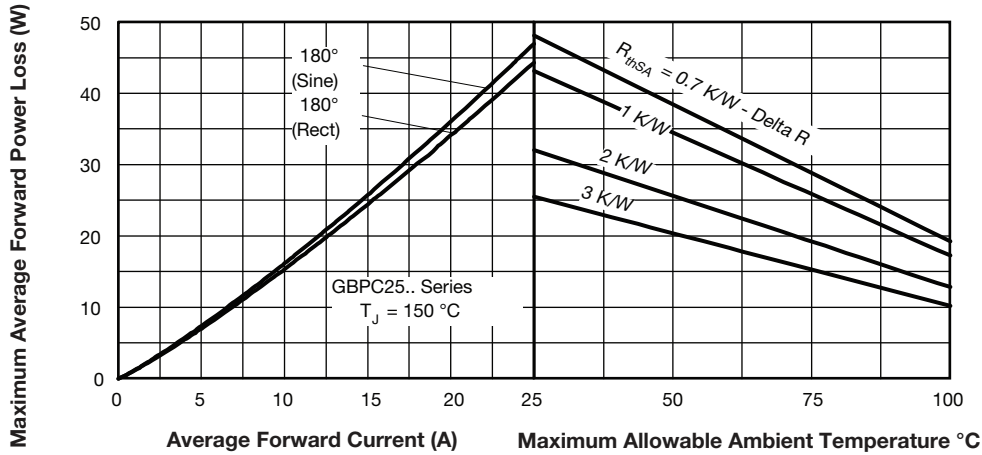


Fig. 3 - Total Power Loss Characteristics

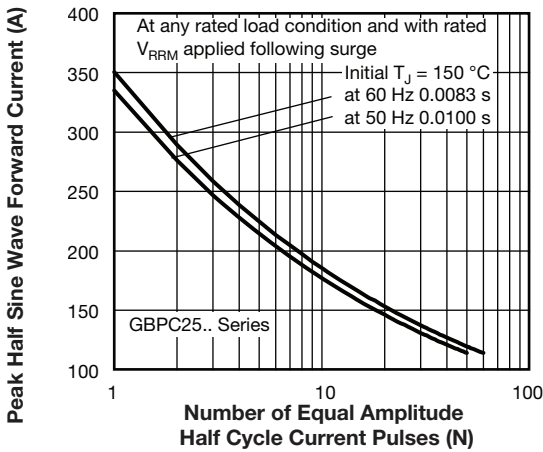


Fig. 4 - Maximum Non-Repetitive Surge Current

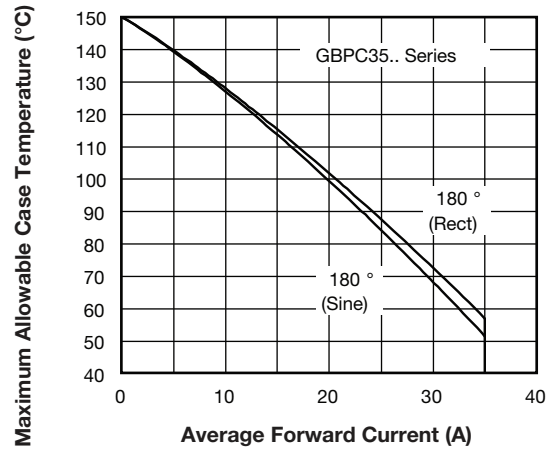


Fig. 6 - Current Ratings Characteristics

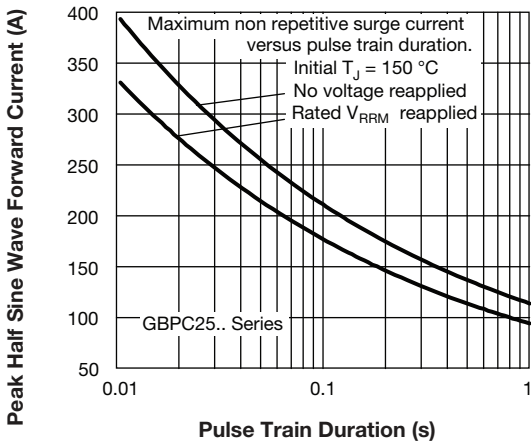


Fig. 5 - Maximum Non-Repetitive Surge Current

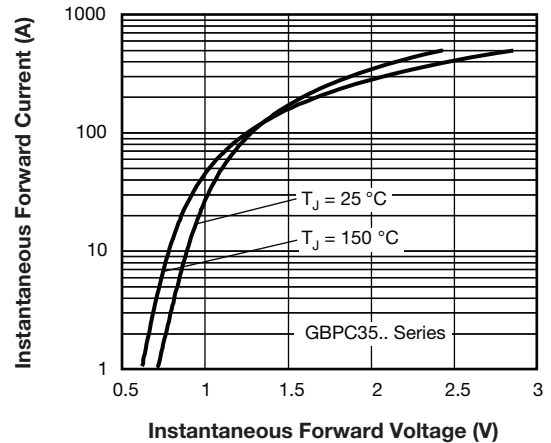


Fig. 7 - Forward Voltage Drop Characteristics

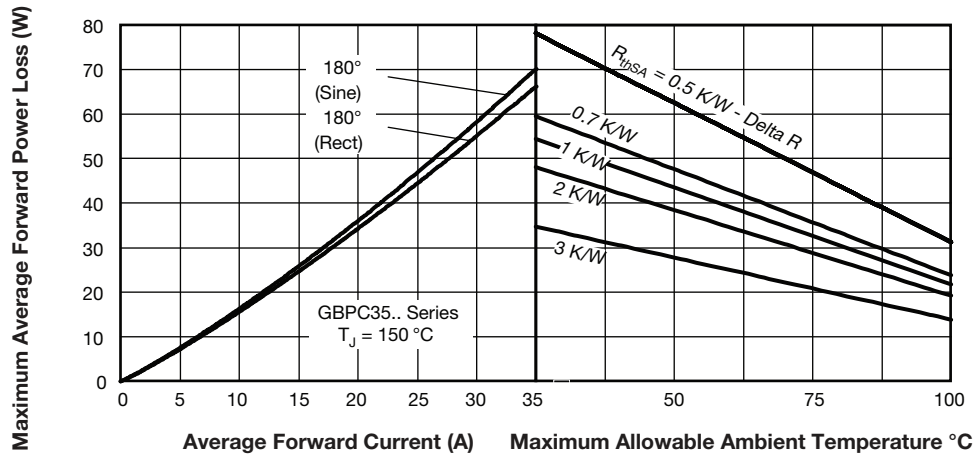


Fig. 8 - Total Power Loss Characteristics

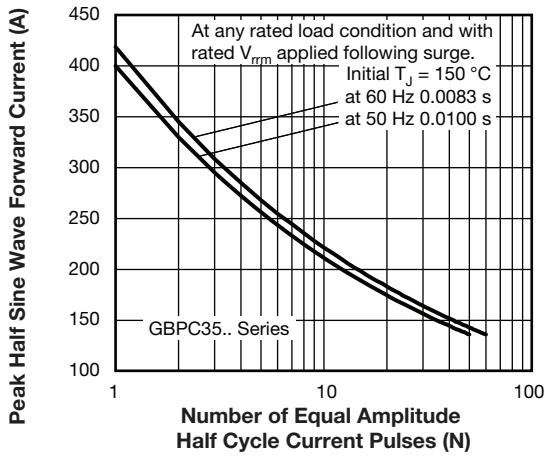


Fig. 9 - Maximum Non-Repetitive Surge Current

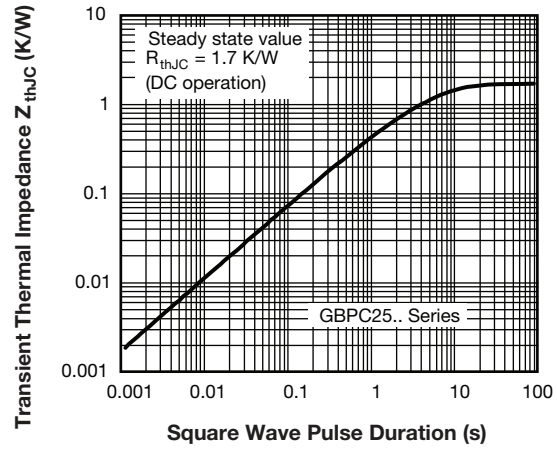


Fig. 11 - Thermal Impedance  $Z_{thJC}$  Characteristic

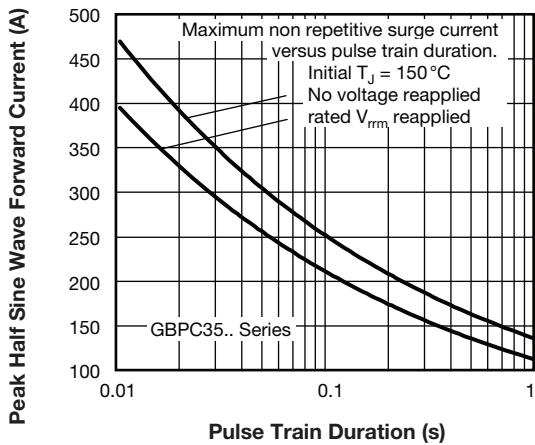


Fig. 10 - Maximum Non-Repetitive Surge Current

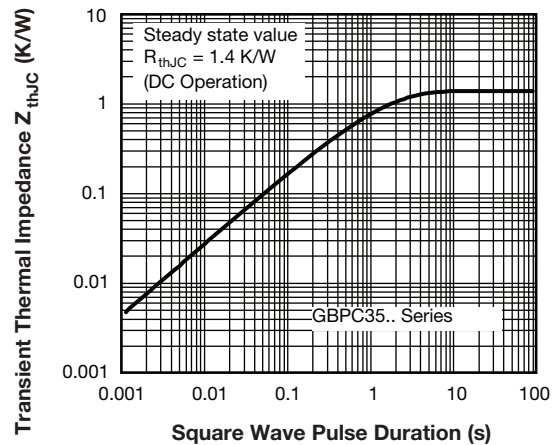
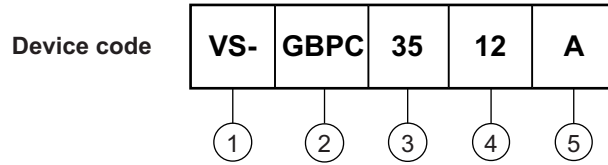


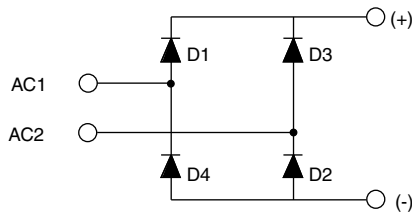
Fig. 12 - Thermal Impedance  $Z_{thJC}$  Characteristic

## ORDERING INFORMATION TABLE



- 1 - Vishay Semiconductors product
- 2 - Circuit configuration:  
Single phase bridge coding
- 3 - Current rating code 25 = 25 A (average)  
35 = 35 A (average)
- 4 - Voltage code x 100 =  $V_{RRM}$
- 5 - Diode bridge rectifier:
  - A = standard fast-on terminal
  - W = wire lead

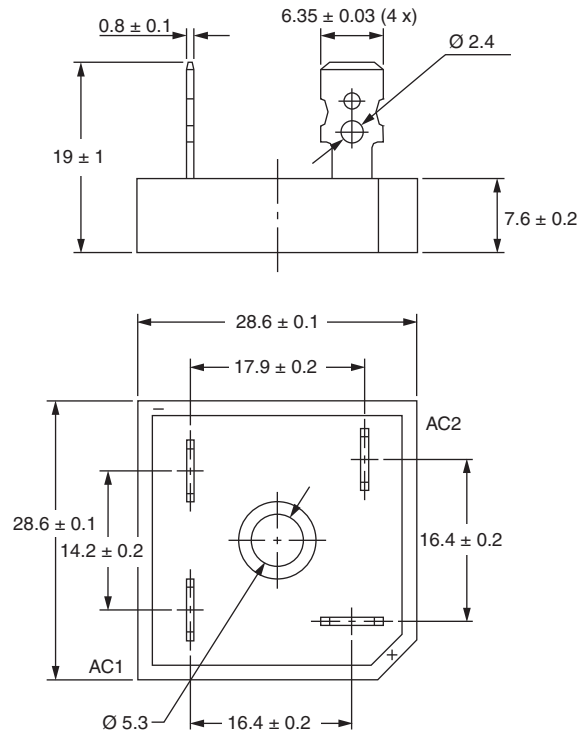
## CIRCUIT CONFIGURATION



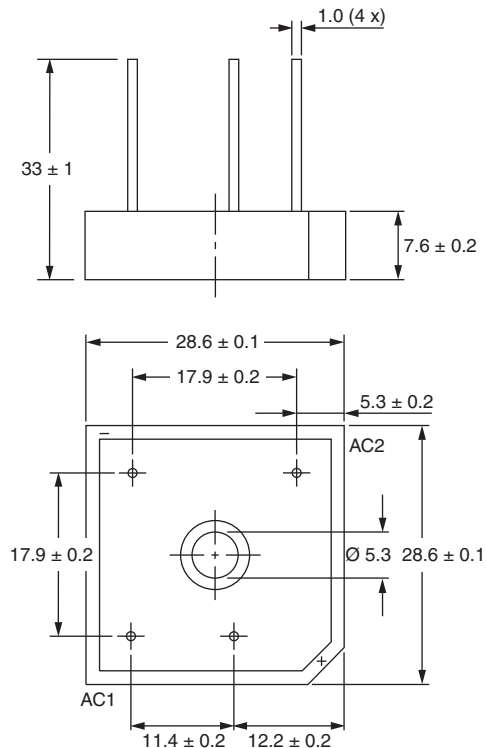
LINKS TO RELATED DOCUMENTS	
Dimensions	<a href="http://www.vishay.com/doc?95331">www.vishay.com/doc?95331</a>

## GBPC

### DIMENSIONS FOR GBPC...A in millimeters



### DIMENSIONS FOR GBPC...W in millimeters





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