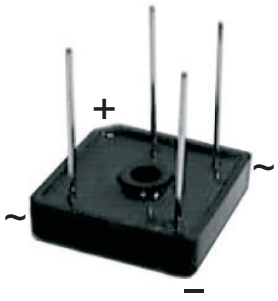
Glass Passivated Single-Phase Bridge Rectifier, 50A
GBPC5006 Thru GBPC5016

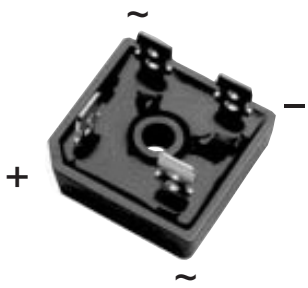
FEATURES

- UL recognition file number E320098
- Universal 3-way terminals: snap-on, wire wrap-around, or PCB mounting
- Typical IR less than 1.0 μA
- High surge current capability
- Low thermal resistance
- Solder dip 260°C, 40s
- Compliant to RoHS
- Glass passivated chips

GBPC-W



GBPC



TYPICAL APPLICATIONS

General purpose use in AC/DC bridge full wave rectification for power supply, home appliances, office equipment, industrial automation applications.

MECHANICAL DATA

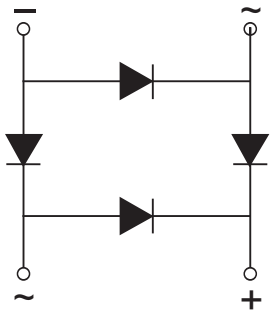
Case: GBPC
Epoxy meets UL 94 V-O flammability rating

Terminals: Nickel plated on faston lugs or silver plated on wire leads,solderable per J-STD-002 and JESD22-B102. Suffix letter "W" added to indicate wire leads (e.g. GBPC5006W).

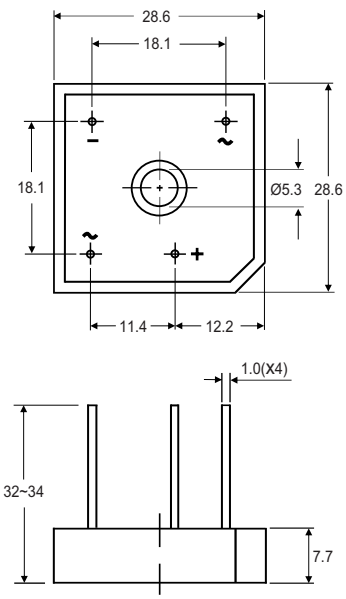
Polarity: As marked

Mounting Torque: 20 inches-lbs. max. (M5 screw)

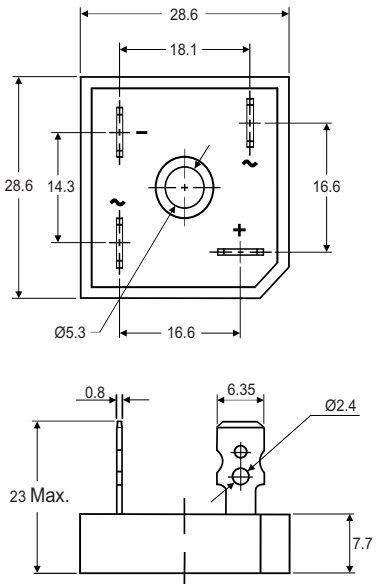
Weight: 16g (0.56 ozs)



GBPC-W



GBPC



All dimensions in millimeters

PRIMARY CHARACTERRISTICS	
$I_{F(AV)}$	50A
V_{RRM}	600V to 1600V
I_{FSM}	450A
I_R	5 μA
V_F	1.1V
$T_{J\ max.}$	150ºC

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	GBPC50					UNIT
		06	08	10	12	16	
Maximum repetitive peak reverse voltage	V_{RRM}	600	800	1000	1200	1600	V
Maximum RMS voltage	V_{RMS}	420	560	700	840	1120	V
Maximum DC blocking voltage	V_{DC}	600	800	1000	1200	1600	V
Maximum average forward rectified output current @ T_C = 85°C (Fig.1)	$I_{F(AV)}$	50					A
Peak forward surge current single sine-wave superimposed on rated load	I_{FSM}	450					A
Rating (non-repetitive, for t greater than 1 ms and less than 8.3 ms) for fusing	I^2t	840					A^2s
RMS isolation voltage from case to leads	V_{ISO}	2500					V
Operating junction storage temperature range	T_J,T_{STG}	-55 to 150					ºC

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

PARAMETER	TEST CONDITIONS	SYMBOL	GBPC50					UNIT
			06	08	10	12	16	
Maximum instantaneous forward drop per diode	I_F = 25A	V_F	1.1					V
Maximum reverse DC current at rated DC blocking voltage per diode	T_A = 25°C	I_R	5					μA
	T_A = 150°C		500					
Typical junction capacitance per diode	4V, 1MHz	C_J	300					pF

THERMAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

PARAMETER	SYMBOL	GBPC50					UNIT
		06	08	10	12	16	
Typical thermal resistance	$R_{\theta JC}$ (1)	1.4					°C/W

Notes

(1) With heatsink

(2) Bolt down on heatsink with silicone thermal compound between bridge and mounting surface for maximum heat transfer with M5 screw

Fig.1 On-state current and voltage

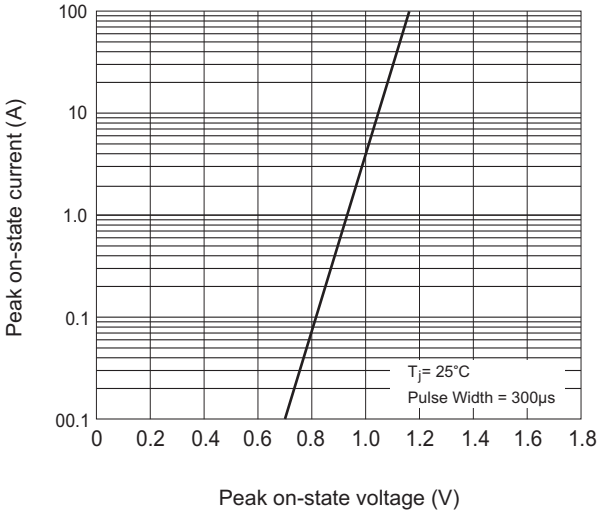


Fig.2 Case temperature vs on-state average current

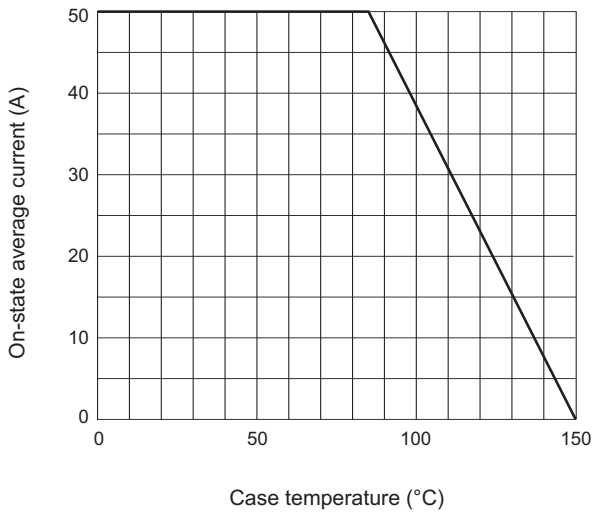


Fig.3 On-state surge current vs cycles

