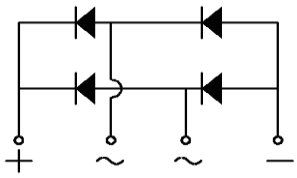
GBPC5006 thru GBPC5012

Feature

- ●Glass-passivated chip ensures high stability
- ●Low reverse leakage current
- ●Isolation voltage 2500V～
- ●High surge current capability



Application

- ●Electric welder
- ●Industrial power supply
- ●Inverter
- ●Uninterruptible power supply

Maximum value @ Ta = 25ºC unless otherwise noted

Symbol	Parameter	Rating				Unit
		GBPC5006	GBPC5008	GBPC5010	GBPC5012	
V_{RRM}	Reverse peak repetitive voltage	600	800	1000	1200	V
V_{RSM}	Reverse peak non-repetitive voltage	700	900	1100	1300	V

Symbol	Parameter		Rating	Unit
$I_{(AV)}$	Average rectified output current	with heatsink,TC=85ºC	50	A
I_{FSM}	Peak surge forward current,8.3ms single half sine-wave superimposed on rated load		500	A
I^2t	Rating for fusing,1ms<t<8.3ms,Tj=25ºC,Rating of per diode		1037	A^2S
Tj	Junction temperature		-55 to +150	ºC
Tstg	Storage temperature		-55 to +150	ºC
Vdis	Dielectric strength,terminals to case AC 1 minute		2500	V
$R_{\theta JA}$	Junction to ambient thermal resistance,without heatsink		14	ºC/W
$R_{\theta JC}$	Junction to case thermal resistance,with heatsink		0.95	ºC/W
Md	Mounting torque		10	kgf.cm
Wt	Weight		14	g

Electrical characteristics

Symbol	Parameter	Test condition	Max value	Unit
I_{RRM}	Peak reverse repetitive current	$V_R=V_{RRM}$, Tj=25ºC	5	μA
		$V_R=V_{RRM}$, Tj=125ºC	500	μA
V_{FM}	Peak forward voltage	I_{FM} =25A, Tj=25ºC	1.1	V

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GBPC5006 thru GBPC5012

Performance Curves

Fig1.Derating Curve For Output Rectified Current

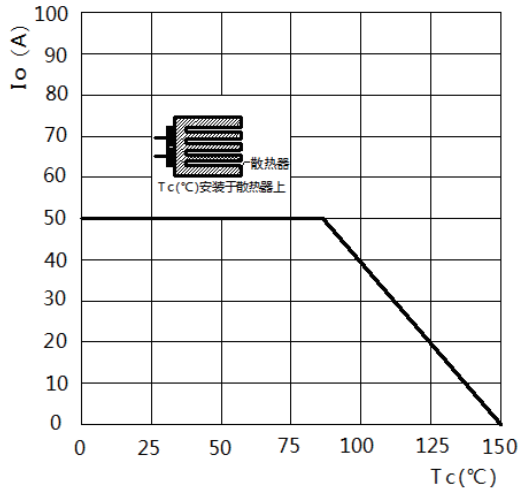


Fig2.Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

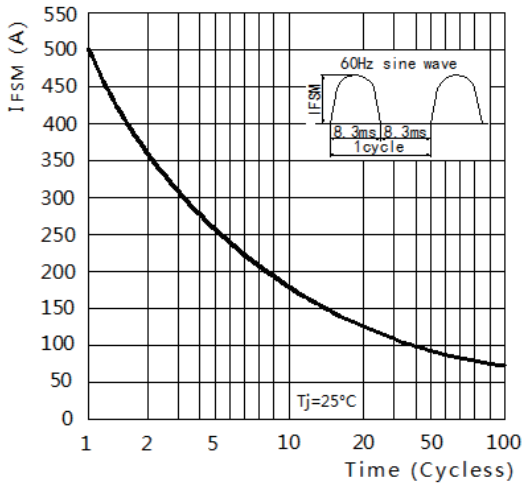


Fig3.Typical Reverse Characteristics Per Bridge Element

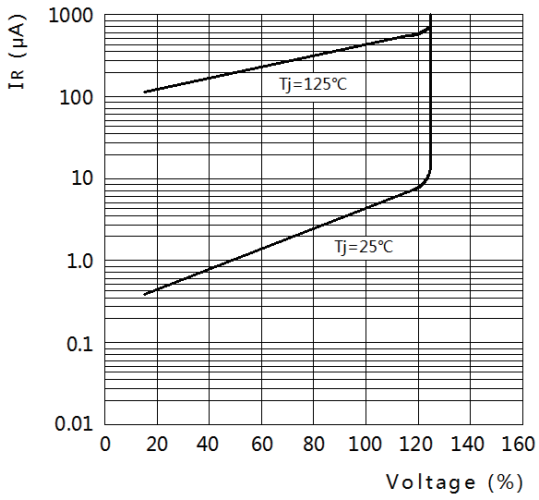
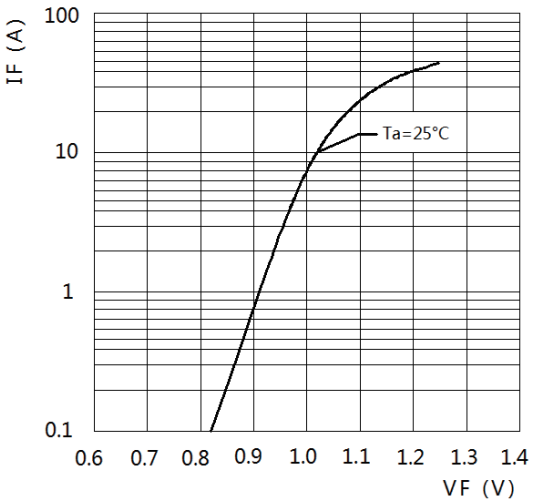
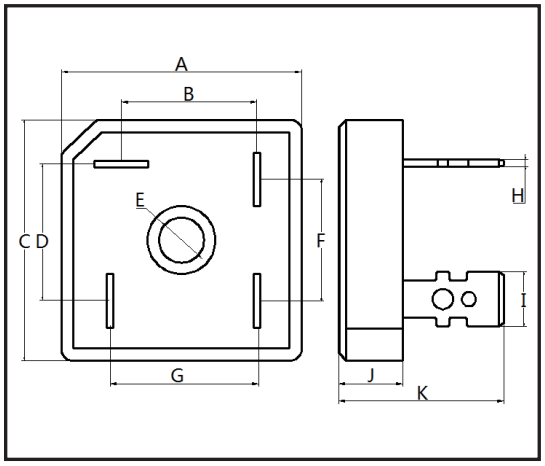


Fig4.Typical Forward Characteristics Per Bridge Element



Outline



Dim.	Unit(mm)		Unit(inch)	
	Min.	Max.	Min.	Max.
A	27.80	28.80	1.094	1.134
B	15.50	16.50	0.610	0.650
C	27.80	28.80	1.094	1.134
D	15.50	16.50	0.610	0.650
E	4.80	5.80	0.189	0.228
F	13.80	14.80	0.543	0.583
G	17.00	18.00	0.669	0.709
H	0.60	1.00	0.024	0.039
I	6.10	6.60	0.240	0.260
J	7.10	8.10	0.280	0.319
K	19.00	20.00	0.748	0.787

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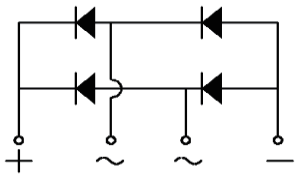
GBPC3506 thru GBPC3512

Feature

- ●Glass-passivated chip ensures high stability
- ●Low reverse leakage current
- ●Isolation voltage 2500V～
- ●High surge current capability



Application

- ●Electric welder
- ●Industrial power supply
- ●Inverter
- ●Uninterruptible power supply

Maximum value @ Ta = 25ºC unless otherwise noted

Symbol	Parameter	Rating				Unit
		GBPC3506	GBPC3508	GBPC3510	GBPC3512	
V_{RRM}	Reverse peak repetitive voltage	600	800	1000	1200	V
V_{RSM}	Reverse peak non-repetitive voltage	700	900	1100	1300	V

Symbol	Parameter		Rating	Unit
$I_{(AV)}$	Average rectified output current	with heatsink,TC=85ºC	35	A
I_{FSM}	Peak surge forward current,8.3ms single half sine-wave superimposed on rated load		400	A
I^2t	Rating for fusing,1ms<t<8.3ms,Tj=25ºC,Rating of per diode		664	A^2S
Tj	Junction temperature		-55 to +150	ºC
Tstg	Storage temperature		-55 to +150	ºC
Vdis	Dielectric strength,terminals to case AC 1 minute		2500	V
$R_{\theta JA}$	Junction to ambient thermal resistance,without heatsink		14	ºC/W
$R_{\theta JC}$	Junction to case thermal resistance,with heatsink		1.35	ºC/W
Md	Mounting torque		10	kgf.cm
Wt	Weight		14	g

Electrical characteristics

Symbol	Parameter	Test condition	Max value	Unit
I_{RRM}	Peak reverse repetitive current	$V_R=V_{RRM}$, Tj=25ºC	5	μA
		$V_R=V_{RRM}$, Tj=125ºC	500	μA
V_{FM}	Peak forward voltage	I_{FM} =17.5A, Tj=25ºC	1.1	V

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GBPC3506 thru GBPC3512

Performance Curves

Fig1.Derating Curve For Output Rectified Current

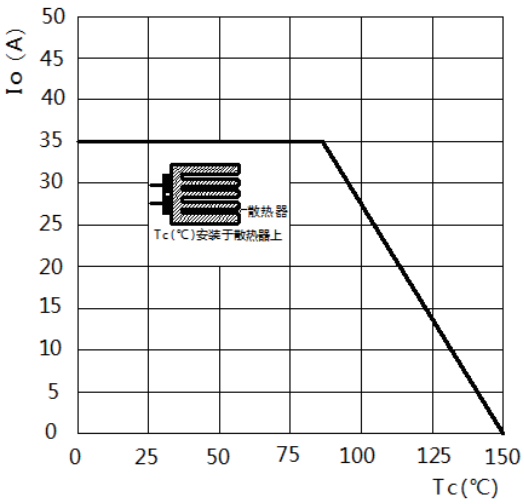


Fig2.Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

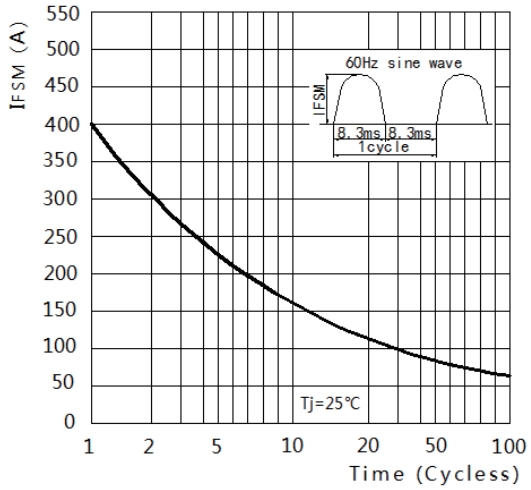


Fig3.Typical Reverse Characteristics Per Bridge Element

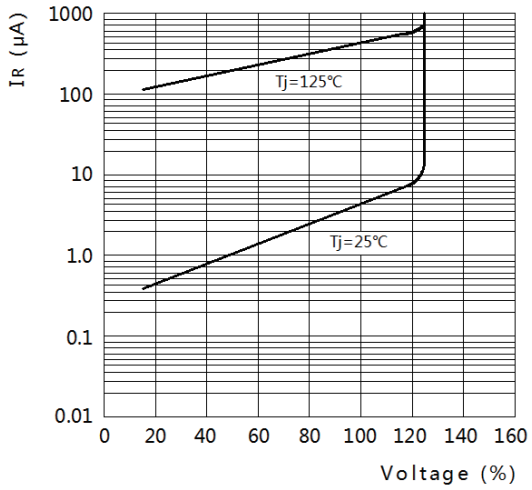
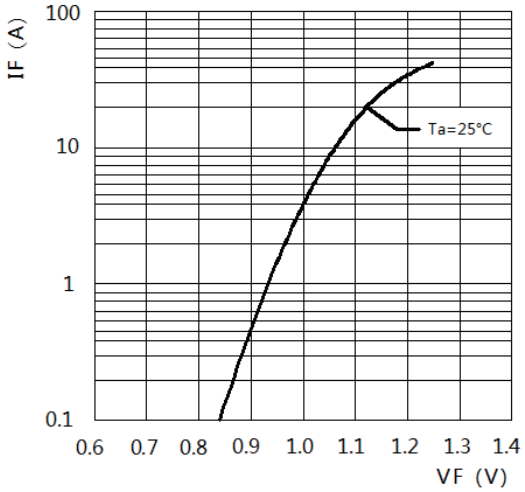
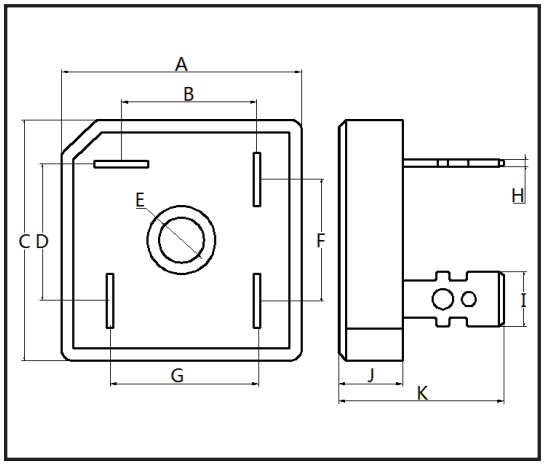


Fig4.Typical Forward Characteristics Per Bridge Element



Outline



Dim.	Unit(mm)		Unit(inch)	
	Min.	Max.	Min.	Max.
A	27.80	28.80	1.094	1.134
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E	4.80	5.80	0.189	0.228
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G	17.00	18.00	0.669	0.709
H	0.60	1.00	0.024	0.039
I	6.10	6.60	0.240	0.260
J	7.10	8.10	0.280	0.319
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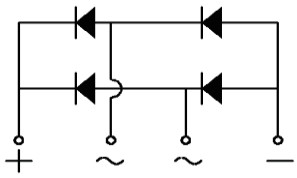
GBPC2506 thru GBPC2512

Feature

- ●Glass-passivated chip ensures high stability
- ●Low reverse leakage current
- ●Isolation voltage 2500V～
- ●High surge current capability



Application

- ●Electric welder
- ●Industrial power supply
- ●Inverter
- ●Uninterruptible power supply

Maximum value @ Ta = 25ºC unless otherwise noted

Symbol	Parameter	Rating				Unit
		GBPC2506	GBPC2508	GBPC2510	GBPC2512	
V_{RRM}	Reverse peak repetitive voltage	600	800	1000	1200	V
V_{RSM}	Reverse peak non-repetitive voltage	700	900	1100	1300	V

Symbol	Parameter		Rating	Unit
$I_{(AV)}$	Average rectified output current	with heatsink,TC=85ºC	25	A
I_{FSM}	Peak surge forward current,8.3ms single half sine-wave superimposed on rated load		300	A
I^2t	Rating for fusing,1ms<t<8.3ms,Tj=25ºC,Rating of per diode		373	A^2S
Tj	Junction temperature		-55 to +150	ºC
Tstg	Storage temperature		-55 to +150	ºC
Vdis	Dielectric strength,terminals to case AC 1 minute		2500	V
$R_{\theta JA}$	Junction to ambient thermal resistance,without heatsink		14	ºC/W
$R_{\theta JC}$	Junction to case thermal resistance,with heatsink		1.8	ºC/W
Md	Mounting torque		10	kgf.cm
Wt	Weight		14	g

Electrical characteristics

Symbol	Parameter	Test condition	Max value	Unit
I_{RRM}	Peak reverse repetitive current	$V_R=V_{RRM}$, Tj=25ºC	5	μA
		$V_R=V_{RRM}$, Tj=125ºC	500	μA
V_{FM}	Peak forward voltage	I_{FM} =12.5A, Tj=25ºC	1.1	V

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GBPC2506 thru GBPC2512

Performance Curves

Fig1.Derating Curve For Output Rectified Current

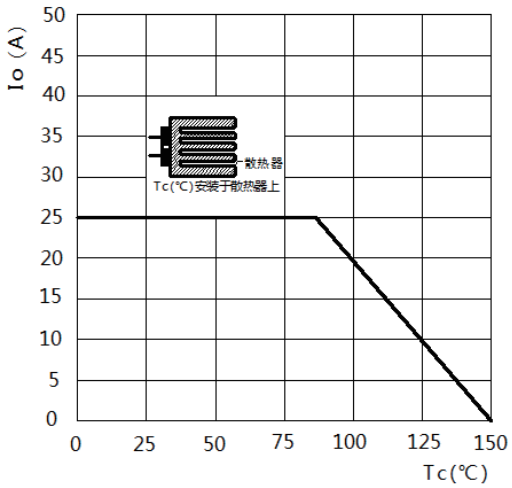


Fig2.Maximum Non-Repetitive Peak Forward Surge Current Per Bridge Element

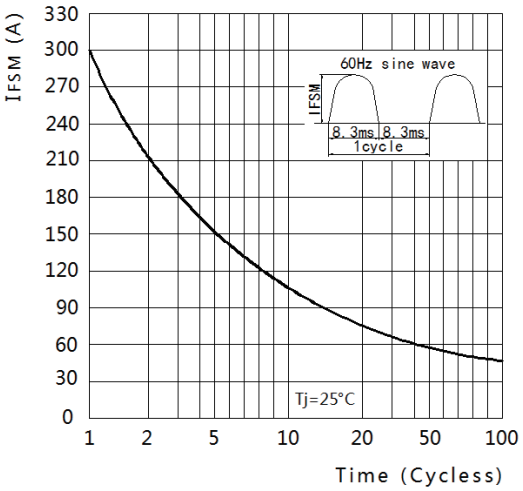


Fig3.Typical Reverse Characteristics Per Bridge Element

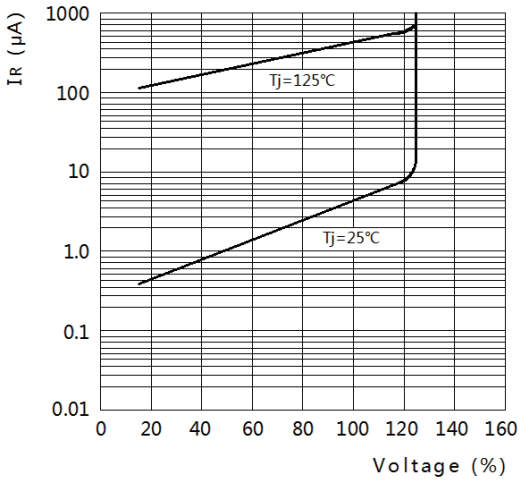
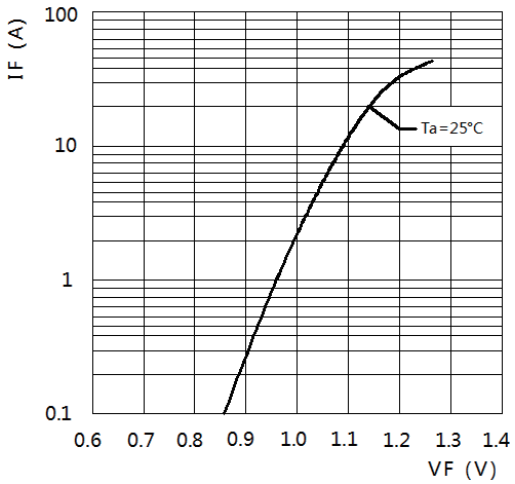
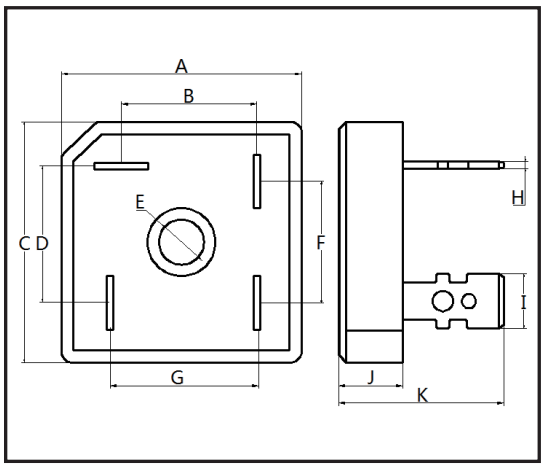


Fig4.Typical Forward Characteristics Per Bridge Element



Outline



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