Index of /ds/GB/

Name	Last modified	Size	Description
Parent Directory			
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FAIRCHILD SEMICONDUCTOR™

Discrete POWER & Signal Technologies

GBPC 12, 15, 25, 35 SERIES

Features

- Integrally molded heatsink provided very low thermal resistance for maximum heat dissipation.
- Surge overload rartings from 300 amperes to 400 amperes.
- Isolated voltage from case to lead over 2500 volts.

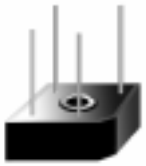
GBPC

Suffix "W"

Wire Lead Structure

Suffix "M"

Terminal Location Face to Face



GBPC-W

12, 15, 25, 35 Ampere Glass Passivated Bridge Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter		Value	Units
I_O	Average Rectified Current @ T_A = 55°C	GBPC12	12	A
		GBPC15	15	A
		GBPC25	25	A
		GBPC35	35	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	GBPC12, 15, 25	300	A
		GBPC35	400	A
P_D	Total Device Dissipation		83.3	W
	Derate above 25°C		666	mW/°C
$R_{\theta JL}$	Thermal Resistance, Junction to Lead		1.5	°C/W
T_{stg}	Storage Temperature Range		-55 to +150	°C
T_J	Operating Junction Temperature		-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

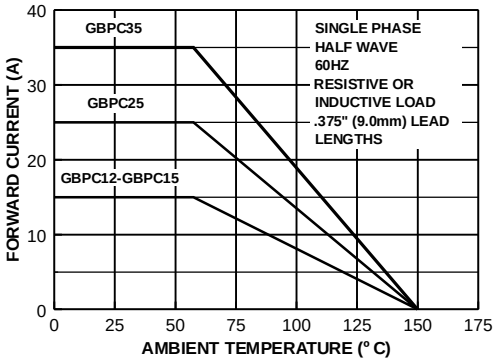
Glass Passivated Bridge Rectifiers
(continued)

Electrical Characteristics
T_A = 25°C unless otherwise noted

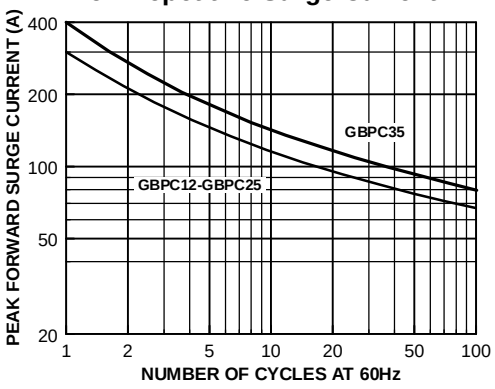
Parameter	Device							Units
	005	01	02	04	06	08	10	
Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Bridge Input Voltage	35	70	140	280	420	560	700	V
DC Reverse Voltage (Rated V_R)	50	100	200	400	600	800	1000	V
Maximum Reverse Leakage, total bridge @ rated V_R T_A = 25°C				5.0				µA
T_A = 125°C				500				µA
Maximum Forward Voltage Drop, per bridge @ 6.0 A **GBPC12** @ 7.5 A **GBPC15** @ 12.5 A **GBPC25** @ 17.5 A **GBPC35**				1.1				V
I^2t rating for fusing **GBPC12,15,25** t < 8.3 ms **GBPC35**				375				A^2Sec
				660				A^2Sec
Typical Junction Capacitance, per leg V_R = 4.0V, **GBPC12,15,25** f = 1.0 MHz **GBPC35**				180				pF
				200				pF

Typical Characteristics

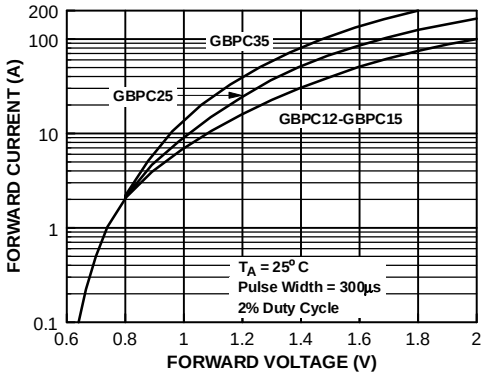
Forward Current Derating Curve



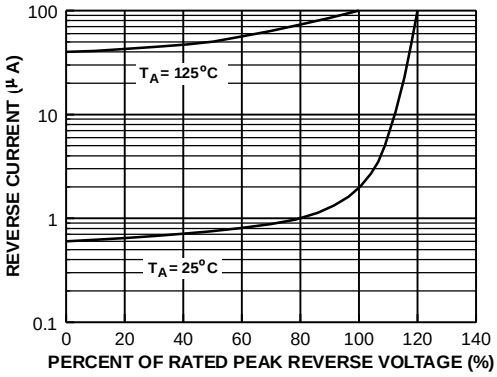
Non-Repetitive Surge Current



Forward Characteristics



Reverse Characteristics



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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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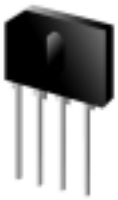
FAIRCHILD SEMICONDUCTOR™

Discrete POWER & Signal Technologies

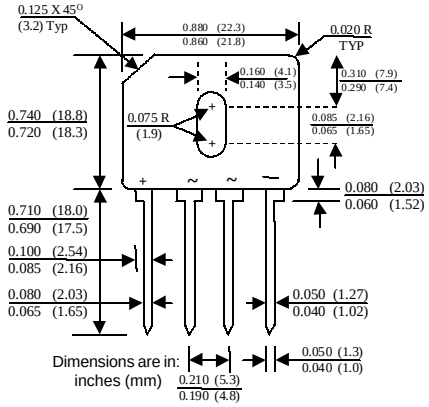
GBU4A - GBU4M

Features

- Surge overload rating: 150 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- Ideal for printed circuit board.



GBU



4.0 Ampere Bridge Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I_O	Average Rectified Current @ T_A = 100°C @ T_A = 40°C	4.0 3.0	A A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	150	A
P_D	Total Device Dissipation Derate above 25°C	6.9 55	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient,** per leg	19	°C/W
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**Device mounted on PCB with 0.5 x 0.5" (12 x 12 mm).

Electrical Characteristics

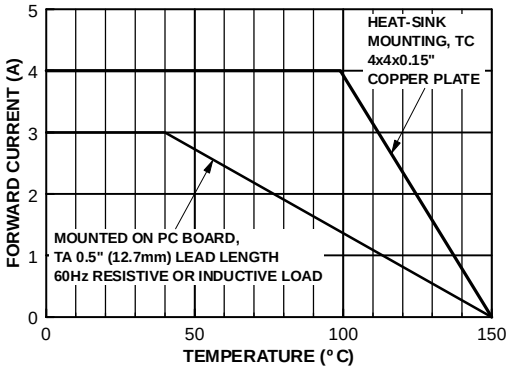
T_A = 25°C unless otherwise noted

Parameter	Device							Units
	4A	4B	4D	4G	4J	4K	4M	
Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
DC Reverse Voltage (Rated V_R)	50	100	200	400	600	800	1000	V
Maximum Reverse Leakage, per element @ rated V_R T_A = 25°C T_A = 125°C	5.0 500							 µA µA
Maximum Forward Voltage Drop, per element @ 4.0 A	1.0							 V
I^2t rating for fusing t < 8.35 ms	93							A^2Sec

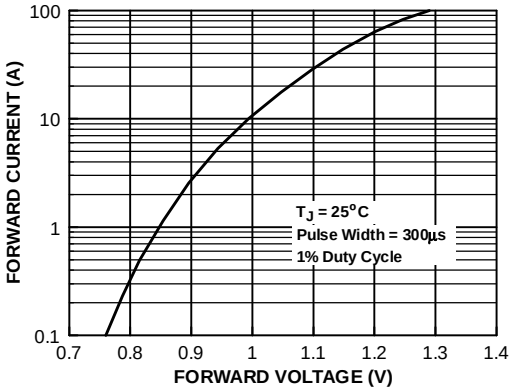
Bridge Rectifiers
(continued)

Typical Characteristics

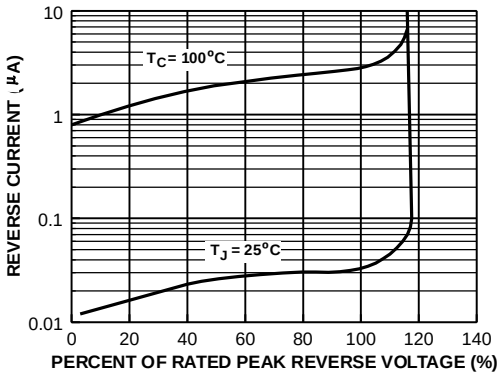
Forward Current Derating Curve



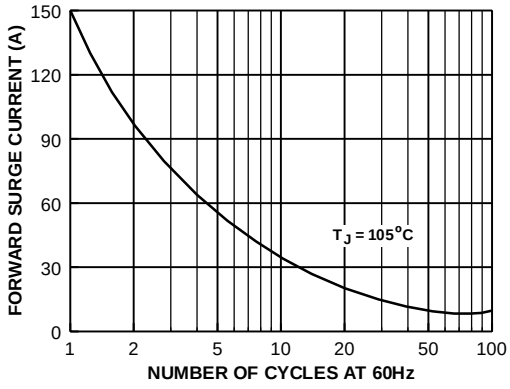
Forward Characteristics



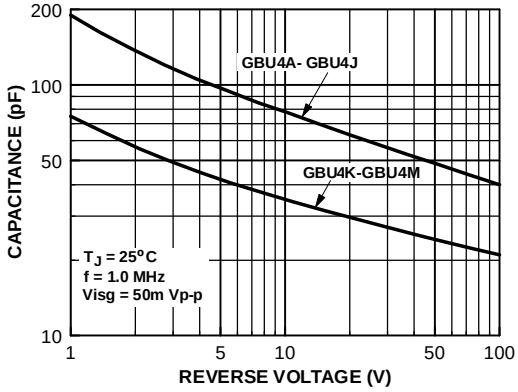
Reverse Characteristics



Non-Repetitive Surge Current



Junction Capacitance



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GTO™
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QS™
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2. A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

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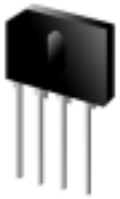
FAIRCHILD SEMICONDUCTOR TM

Discrete POWER & Signal Technologies

GBU6A - GBU6M

Features

- Surge overload rating: 175 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- Ideal for printed circuit board.



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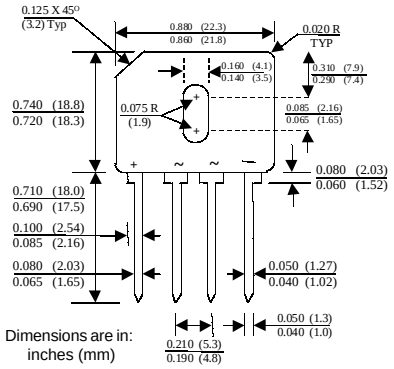


6.0 Ampere Bridge Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I_O	Average Rectified Current @ T_A = 100°C	6.0	A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	175	A
P_D	Total Device Dissipation Derate above 25°C	14.5	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient,** per leg	8.6	°C/W
$R_{\theta JC}$	Thermal Resistance, Junction to Case,*** per leg	3.1	°C/W
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**Device mounted on PCB with 0.5 x 0.5" (12 x 12 mm).

***Device mounted on Al plate with 2.6 x 1.4" x 0.06" (6,5 x 3.5 x 0.15 cm).

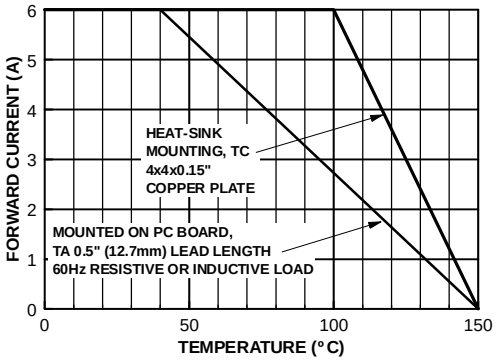
Electrical Characteristics

T_A = 25°C unless otherwise noted

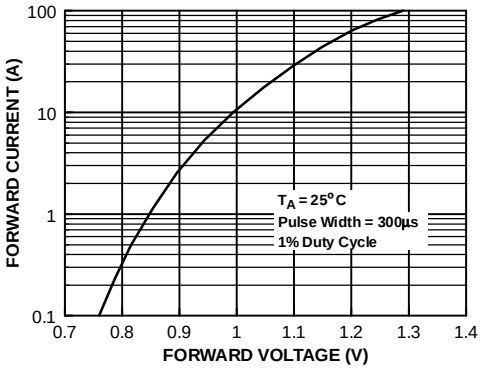
Parameter	Device							Units
	6A	6B	6D	6G	6J	6K	6M	
Peak Repetitive Reverse Voltage	50	100	200	400	600	800	1000	V
Maximum RMS Input Voltage	35	70	140	280	420	560	700	V
DC Reverse Voltage (Rated V_R)	50	100	200	400	600	800	1000	V
Maximum Reverse Leakage, per element @ rated V_R T_A = 25°C T_A = 125°C				5.0 500				 µA µA
Maximum Forward Voltage Drop, per element @ 6.0 A				1.0				 V
I^2t rating for fusing t < 8.35 ms				127				A^2Sec

Typical Characteristics

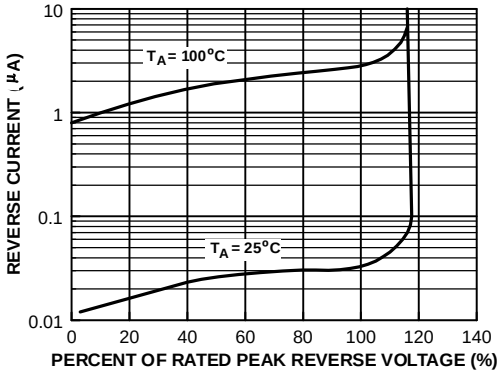
Forward Current Derating Curve



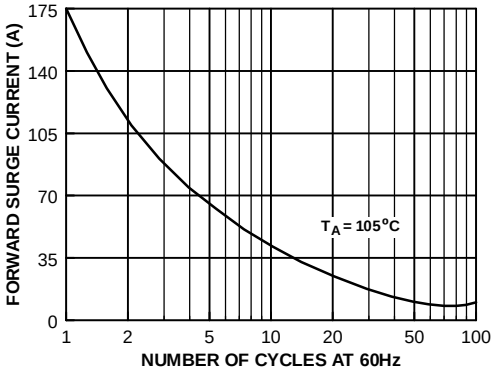
Forward Characteristics



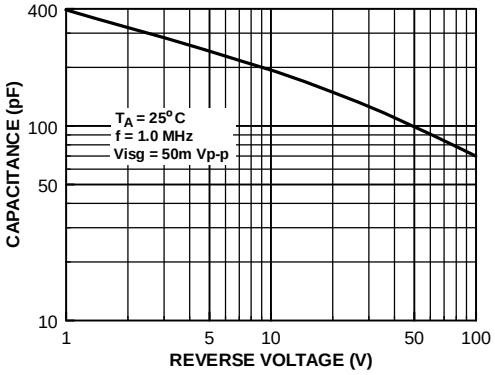
Reverse Characteristics



Non-Repetitive Surge Current



Junction Capacitance



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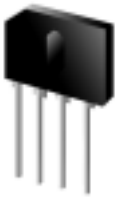
FAIRCHILD SEMICONDUCTOR™

Discrete POWER & Signal Technologies

GBU8A - GBU8K

Features

- Surge overload rating: 200 amperes peak.
- Reliable low cost construction utilizing molded plastic technique.
- Ideal for printed circuit board.



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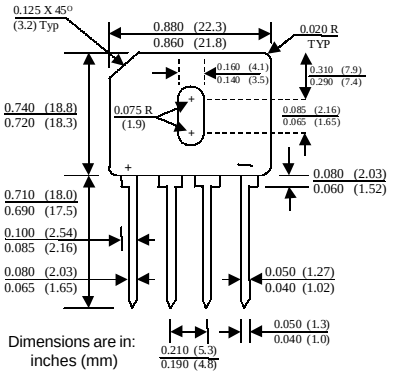


8.0 Ampere Bridge Rectifiers

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
I_O	Average Rectified Current @ T_A = 100°C @ T_A = 45°C	8.0 6.0	A A
$i_{f(surge)}$	Peak Forward Surge Current 8.3 ms single half-sine-wave Superimposed on rated load (JEDEC method)	200	A
P_D	Total Device Dissipation Derate above 25°C	6.9 55	W mW/°C
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient,** per leg	18	°C/W
T_{stg}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	-55 to +150	°C

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

**Device mounted on PCB with 0.5 x 0.5" (12 x 12 mm).

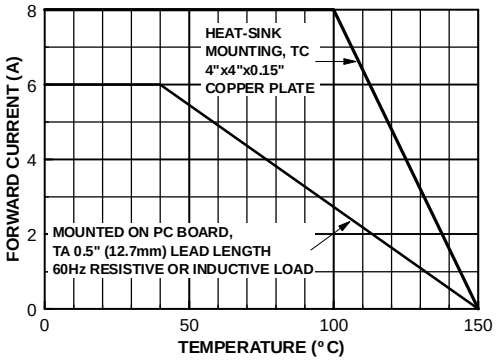
Electrical Characteristics

T_A = 25°C unless otherwise noted

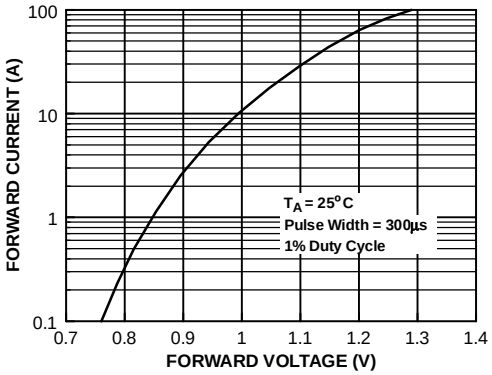
Parameter	Device						Units
	8A	8B	8D	8G	8J	8K	
Peak Repetitive Reverse Voltage	50	100	200	400	600	800	V
Maximum RMS Input Voltage	35	70	140	280	420	560	V
DC Reverse Voltage (Rated V_R)	50	100	200	400	600	800	V
Maximum Reverse Leakage, per element @ rated V_R T_A = 25°C T_A = 100°C	5.0 500						µA µA
Maximum Forward Voltage Drop, per element @ 8.0 A	1.0						V
I^2t rating for fusing t < 8.35 ms	166						A^2Sec

Typical Characteristics

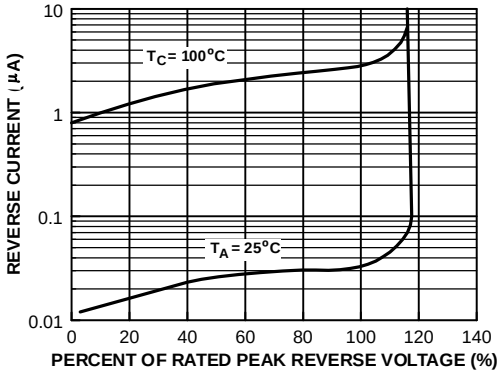
Forward Current Derating Curve



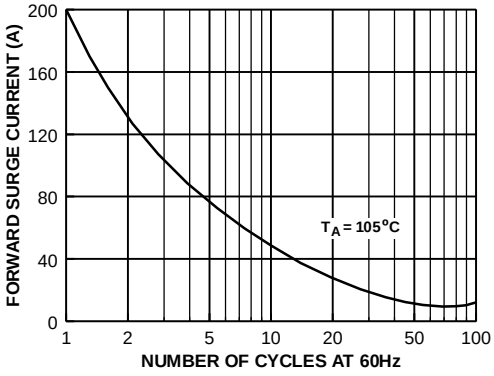
Forward Characteristics



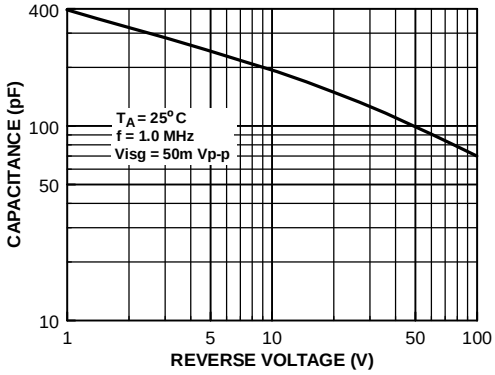
Reverse Characteristics



Non-Repetitive Surge Current



Junction Capacitance



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