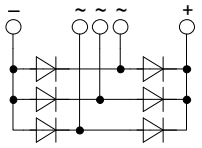
Standard Rectifier

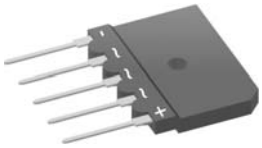
3~ Bipolar Bridge

V_{RRM} = 800 V
I_{DAV} = 40 A
V_F = 1.05 V

Part number

GUO40-08NO1





Backside: isolated

E326641

Features / Advantages:

- Low forward voltage drop
- Planar passivated chips
- Easy to mount with one screw
- Space and weight savings

Applications:

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

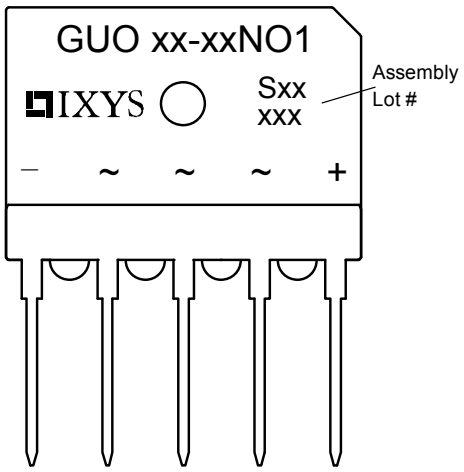
Package:

- Housing: GUFP
- Industry standard outline
- Plastic overmolded tab for electrical isolation
- Isolation Voltage 2500 V
- Epoxy meets UL 94V-0
- RoHS compliant

				Ratings			
Symbol	**Definition**	**Conditions**		**min.**	**typ.**	**max.**	**Unit**
V_{RRM}	*max. repetitive reverse voltage*		T_{VJ} = 25°C			800	V
I_R	*reverse current*	V_R = 800 V	T_{VJ} = 25°C			50	µA
		V_R = 800 V	T_{VJ} = 150°C			1.5	mA
V_F	*forward voltage*	I_F = 12.5 A	T_{VJ} = 25°C			1.15	V
		I_F = 25 A				1.30	V
		I_F = 12.5 A	T_{VJ} = 125°C			1.05	V
		I_F = 25 A				1.20	V
I_{DAV}	*bridge output current*	120° sine	T_C = 85°C			40	A
V_{F0}	*threshold voltage* } *for power loss calculation only*		T_{VJ} = 175°C			0.86	V
r_F	*slope resistance* }					12.9	mΩ
R_{thJC}	*thermal resistance junction to case*					4.30	K/W
T_{VJ}	*virtual junction temperature*			-40		175	°C
P_{tot}	*total power dissipation*		T_C = 25°C			35	W
I_{FSM}	*max. forward surge current*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			370	A
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			400	A
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			315	A
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			340	A
I^2t	*value for fusing*	t = 10 ms; (50 Hz), sine	T_{VJ} = 45°C			685	A²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			665	A²s
		t = 10 ms; (50 Hz), sine	T_{VJ} = 150°C			495	A²s
		t = 8,3 ms; (60 Hz), sine	V_R = 0 V			480	A²s
C_J	*junction capacitance*	V_R = 400 V; f = 1 MHz	T_{VJ} = 25°C		11		pF

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Symbol	Definition	Conditions		Ratings min.	typ.	max.	Unit
I_{RMS}	*RMS current*	per terminal				70	A
R_{thCH}	*thermal resistance case to heatsink*				0.50		K/W
T_{stg}	*storage temperature*			-55		150	°C
Weight					8.5		g
M_D	*mounting torque*			0.8		1.2	Nm
F_C	*mounting force with clip*			20		120	N
V_{ISOL}	*isolation voltage*	t = 1 second		2500			V
		t = 1 minute		2000			V
$d_{Spp/App}$	*creepage | striking distance on surface | through air*	*terminal to terminal*	6.7	5.4			mm
$d_{Spb/Apb}$	*creepage | striking distance on surface | through air*	*terminal to backside*	10.0	8.0			mm

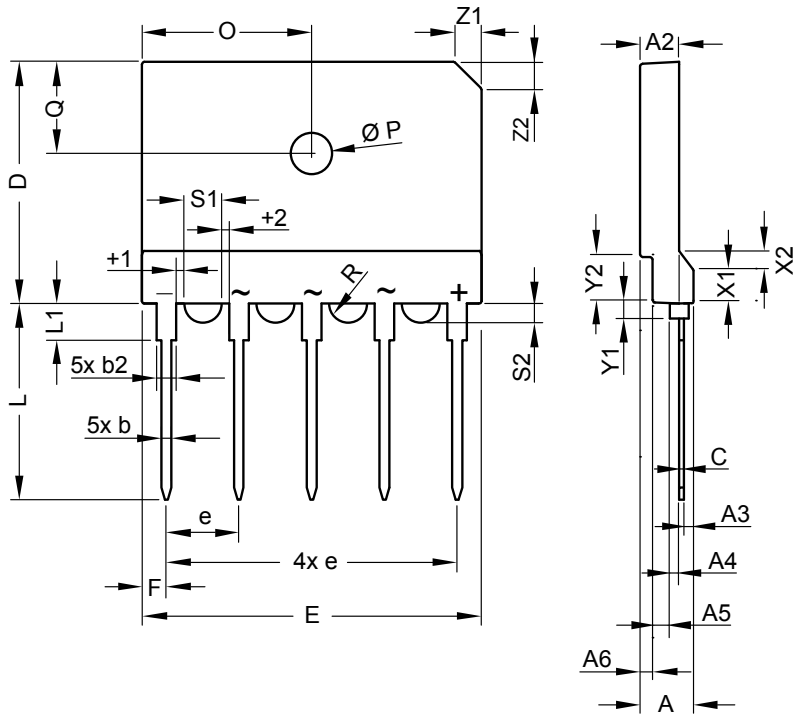


Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Code Key
Standard	GUO40-08NO1	GUO40-08NO1	Tube	15	509523

Similar Part	Package	Voltage class
GUO40-16NO1	GUFP	1600
GUO40-12NO1	GUFP	1200

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Outlines GUFP



Dim.	Millimeter			Inches		
	min	typ.	max	min	typ.	max
A	5.40	5.50	5.60	0.213	0.217	0.221
A2	3.90	4.00	4.10	0.154	0.158	0.162
A3	0.95	1.00	1.10	0.037	0.039	0.043
A4	0.95	1.00	1.05	0.037	0.039	0.041
A5	1.60	1.70	1.80	0.063	0.067	0.071
A6	1.25	1.30	1.35	0.049	0.051	0.053
b	0.95	1.00	1.05	0.037	0.039	0.041
b2	1.95	2.00	2.05	0.077	0.079	0.081
C	0.45	0.50	0.55	0.018	0.020	0.022
D	24.80	25.00	25.20	0.977	0.985	0.993
E	34.70	35.00	35.30	1.367	1.379	1.391
e	BSC 7.50			BSC 0.296		
F	2.40	2.50	2.60	0.095	0.099	0.102
L	2.30	20.40	2.50	0.091	0.804	0.099
L1	3.70	3.75	3.80	0.146	0.148	0.150
O	17.40	17.50	17.60	0.686	0.690	0.693
Ø P	4.10	4.20	4.30	0.162	0.165	0.169
Q	9.20	9.30	9.40	0.362	0.366	0.370
$^{\varnothing}/_{2}$ R		1.77			0.070	
s1	3.45	3.50	3.55	0.136	0.138	0.140
s2	1.45	1.50	1.55	0.057	0.059	0.061
t1	0.95	1.00	1.05	0.037	0.039	0.041
t2	0.95	1.00	1.05	0.037	0.039	0.041
x1	3.20	3.30	3.40	0.126	0.130	0.134
x2	1.90	2.00	2.10	0.075	0.079	0.083
y1	1.60	1.65	1.70	0.063	0.065	0.067
y2	4.65	4.70	4.75	0.183	0.185	0.187
z1	2.80	2.90	3.00	0.110	0.114	0.118

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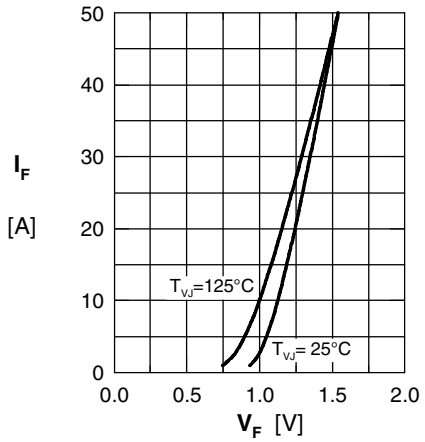


Fig. 1 Forward current versus voltage drop per diode

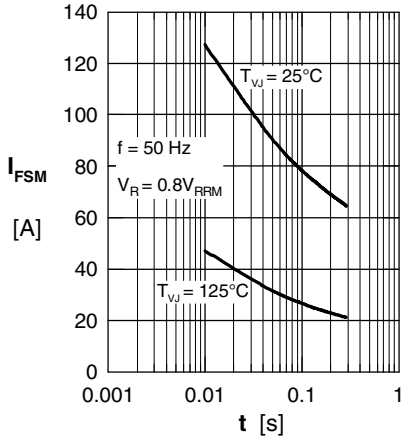


Fig. 2 Surge overload current

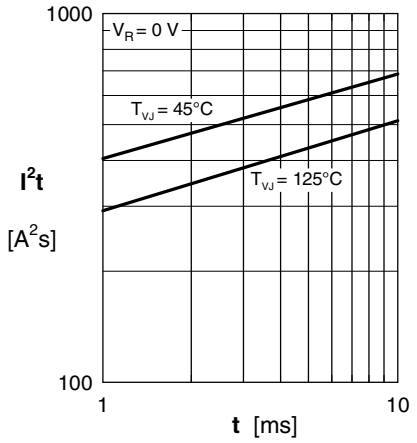


Fig. 3 I^2t versus time per diode

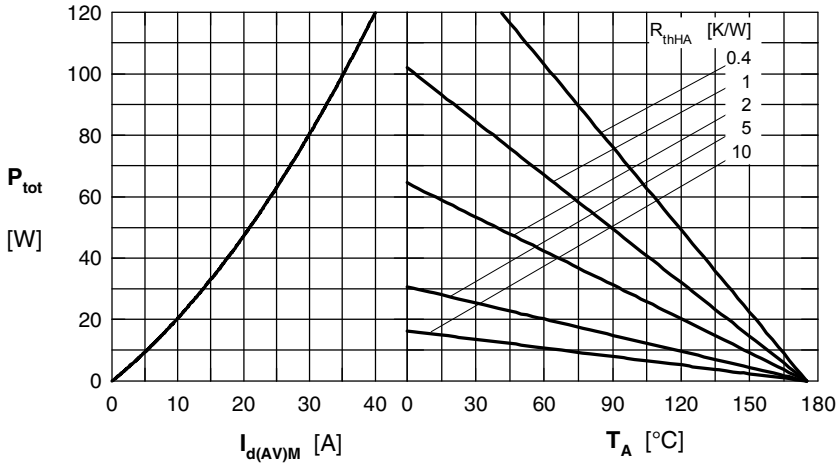


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

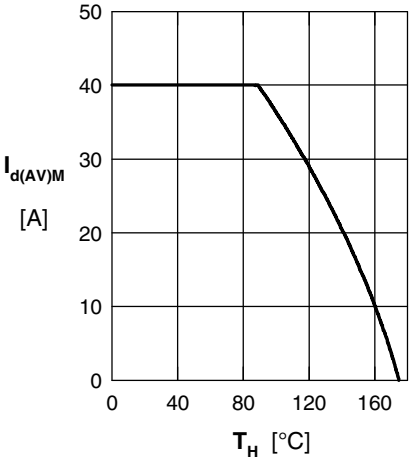


Fig. 5 Max. forward current vs. case temperature

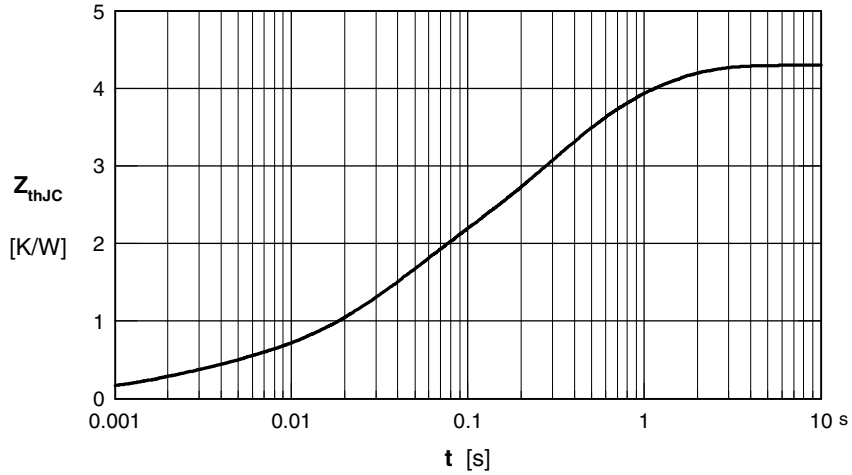


Fig. 6 Transient thermal impedance junction to case

Constants for Z_{thJC} calculation:

i	R_{thi} [K/W]	t_i [s]
1	0.302	0.002
2	1.252	0.032
3	1.582	0.227
4	1.164	0.82

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