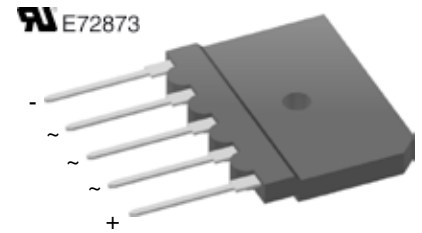
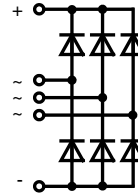


Three Phase Rectifier Bridge

$I_{DAVM} = 40 \text{ A}$
 $V_{RRM} = 800-1600 \text{ V}$

Preliminary data

V_{RSM} V	V_{RRM} V	Standard Types	Ordering No.
900	800	GUO 40-08NO1	509523
1300	1200	GUO 40-12NO1	504430
1700	1600	GUO 40-16NO1	504437



IGBTs		Maximum Ratings	
Symbol	Conditions		
$I_{DAVM} \text{ ①}$	$T_C = 85^\circ\text{C}$, sine 120°	40	A
$I_{DAVM} \text{ ②}$	$T_A = 25^\circ\text{C}$, sine 120°	6	A
I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine	370	A
	$V_R = 0$; $t = 8.3 \text{ ms}$ (60 Hz), sine	390	A
I^2t	$T_{VJ} = 150^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine	320	A
	$V_R = 0$; $t = 8.3 \text{ ms}$ (60 Hz), sine	340	A
P_{tot}	$T_{VJ} = 45^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine	680	A^2s
	$V_R = 0$; $t = 8.3 \text{ ms}$ (60 Hz), sine	640	A^2s
I^2t	$T_{VJ} = 150^\circ\text{C}$; $t = 10 \text{ ms}$ (50 Hz), sine	510	A^2s
	$V_R = 0$; $t = 8.3 \text{ ms}$ (60 Hz), sine	470	A^2s
P_{tot}		35	W
T_{VJ}		-40 ... 175	$^\circ\text{C}$
T_{OP}		150	$^\circ\text{C}$
T_{stg}		-40 ... 150	$^\circ\text{C}$
V_{ISOL}	RMS; 1 s	2500	V
M_d	mounting torque (M4)	0.8-1.2	Nm
Weight	typ.	9	g

Features

- Low forward voltage drop
- Planar passivated chips
- Epoxy meets UL 94V-0

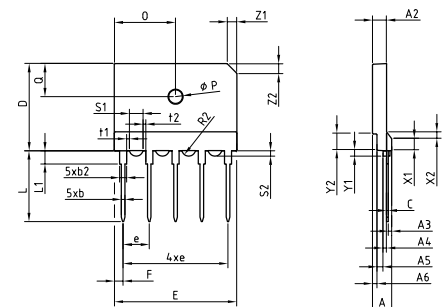
Applications

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

Advantages

- Easy to mount with one screw
- Space and weight savings

Dimensions in mm (1 mm = 0.0394")



Size / mm	min	typ	max
A		5.50	
A2		4.00	
A3		1.00	
A4		1.00	
A5		1.70	
A6		1.30	
b		1.00	
b2		2.00	
C		0.50	
D		25.00	
E		35.00	
e		7.50	
F		2.50	
L		20.24	
L1		3.74	
O		17.50	
ØP		4.00	
Q		9.50	
R (radius)		1.77	
s1		3.50	
s2		1.50	
t1		1.00	
t2		1.00	
x1		3.59	
x2		2.01	
y1		1.71	
y2		4.73	
z1		2.73	

Symbol	Conditions	Characteristic Values	
		min.	max.
I_R	$V_R = V_{RRM}$; $T_{VJ} = 25^\circ\text{C}$		0.05 mA
	$V_R = V_{RRM}$; $T_{VJ} = 150^\circ\text{C}$		1.5 mA
V_F	$I_F = 12.5 \text{ A}$; $T_{VJ} = 25^\circ\text{C}$		1.1 V
V_{T0}	for power-loss calculations only		0.86 V
r_t	$T_{VJ} = 150^\circ\text{C}$		12.9 $\text{m}\Omega$
R_{thJC}	per diode, DC current		4.3 K/W
	per module		0.7 K/W
R_{thJA}	per diode, DC current		50 K/W
	per module		8.3 K/W
d_{S1}, d_{A1}	creeping/Striking distance leads to heatsink	9.5	mm
	creeping/Striking distance lead to lead	5.5	mm
a	max. allowable acceleration		50 m/s^2

Data according to IEC 60747 and refer to a single rectifier unless otherwise stated
 I_{DAVM} = bridge output current for resistive load ① mounted on heatsink; ② without heatsink

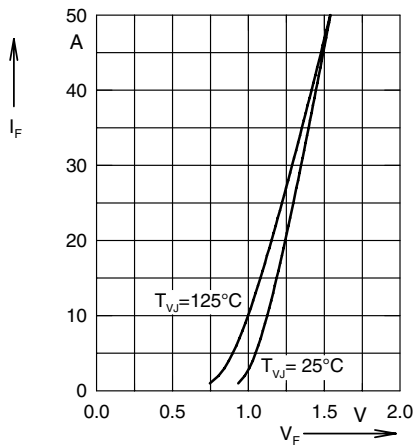


Fig. 1 Forward current versus voltage drop per diode

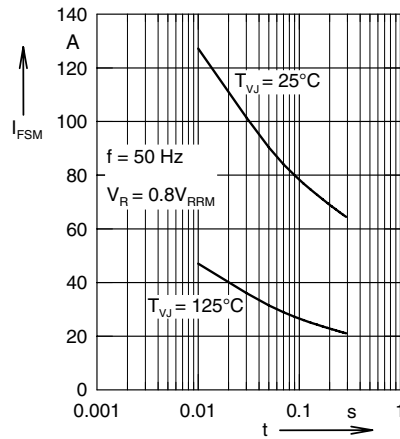


Fig. 2 Surge overload current

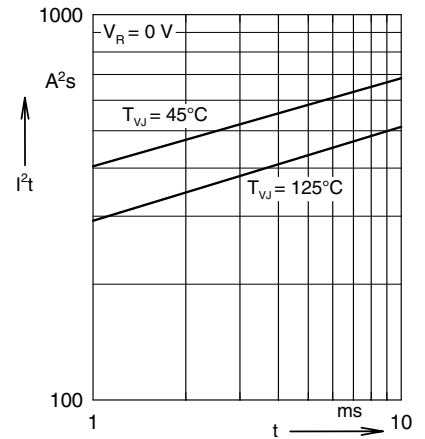


Fig. 3 I^2t versus time per diode

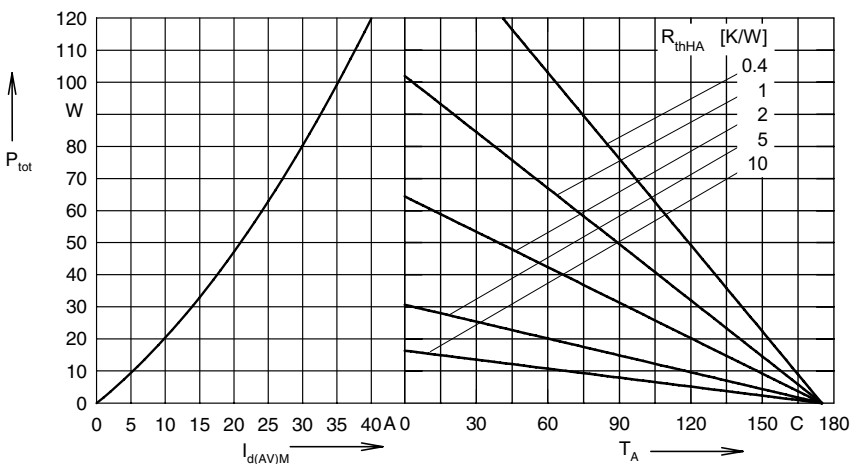


Fig. 4 Power dissipation versus direct output current and ambient temperature, sine 180°

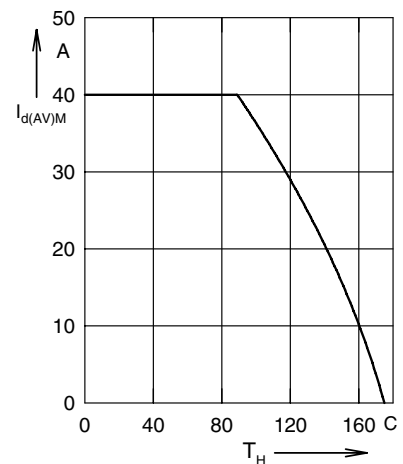


Fig. 5 Max. forward current vs. case temperature

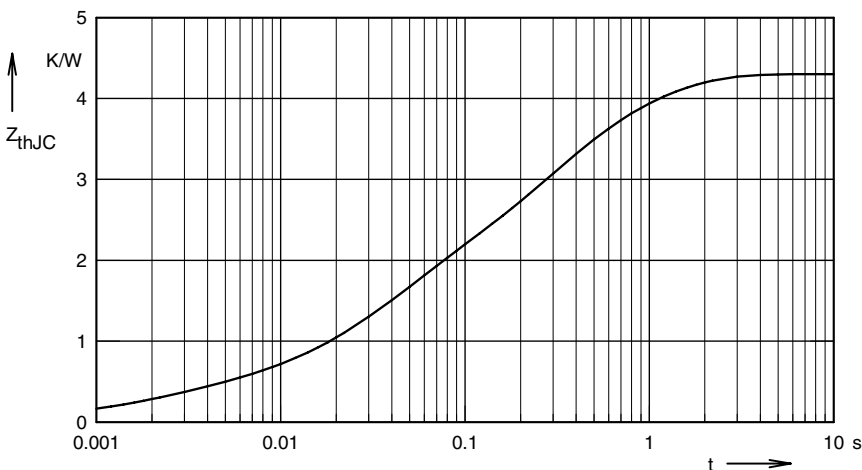


Fig. 6 Transient thermal impedance junction to case

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