Single Phase Rectifier Bridge

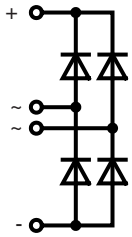
I_{dAV} = 38 A
V_{RRM} = 800-1200 V

Standard and Avalanche Types

Replacement: VBO25-12/16NO2 resp. VBO25-16AO2

V_{RSM} V	V_{BRmin} ① V	V_{RRM} V	Standard Types	Avalanche Types
900		800	VBO 25-08NO2	
1300	1230	1200		VBO 25-12AO2

① For Avalanche Type only



Symbol	Conditions			Maximum Ratings	
I_{dAV} ②	T_C = 85°C, module			38	A
I_{dAVM}	module			40	A
P_{RSM}	$T_{VJ} = T_{VJM}$			3.4	kW
I_{FSM}	T_{VJ} = 45°C;	t = 10 ms	(50 Hz)	370	A
	V_R = 0	t = 8.3 ms	(60 Hz)	390	A
	$T_{VJ} = T_{VJM}$;	t = 10 ms	(50 Hz)	320	A
	V_R = 0	t = 8.3 ms	(60 Hz)	340	A
I^2t	T_{VJ} = 45°C;	t = 10 ms	(50 Hz)	680	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	640	A^2s
	$T_{VJ} = T_{VJM}$;	t = 10 ms	(50 Hz)	510	A^2s
	V_R = 0	t = 8.3 ms	(60 Hz)	470	A^2s
T_{VJ}				-40...+150	°C
T_{VJM}				150	°C
T_{stg}				-40...+125	°C
V_{ISOL}	50/60 Hz, RMS	t = 1 min		3000	V~
	$I_{ISOL} \leq$ 1 mA	t = 1 s		3600	V~
M_d	Mounting torque	(M5)		1.5-2	Nm
		(10-32 UNF)		13-18	lb.in.
Weight	Typ.			15	g

Symbol	Conditions		Characteristic Values	
I_R	$V_R = V_{RRM}$	T_{VJ} = 25°C	0.3	mA
		$T_{VJ} = T_{VJM}$	5.0	mA
V_F	I_F = 55 A	T_{VJ} = 25°C	1.36	V
V_{T0}	For power-loss calculations only		0.85	V
r_t			8	mΩ
R_{thJC}	per diode; 120° el.		2.80	K/W
	per module		0.70	K/W
R_{thJH}	per diode; 120° el.		3.20	K/W
	per module		0.80	K/W
d_S	Creeping distance on surface		13	mm
d_A	Creepage distance in air ③		9.5	mm
a	Max. allowable acceleration		50	m/s^2

Data according to IEC 60747 and refer to a single diode unless otherwise stated.
② for resistive load at bridge output
③ with isolated fast-on tabs.

Features

- Avalanche rated parts available
- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Low forward voltage drop
- ¼" fast-on terminals
- UL registered E 72873

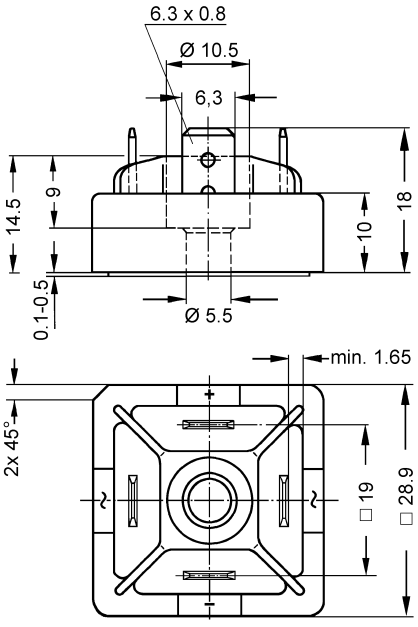
Applications

- 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
- Improved temperature & power cycling

Dimensions in mm (1 mm = 0.0394")



IXYS reserves the right to change limits, test conditions and dimensions.

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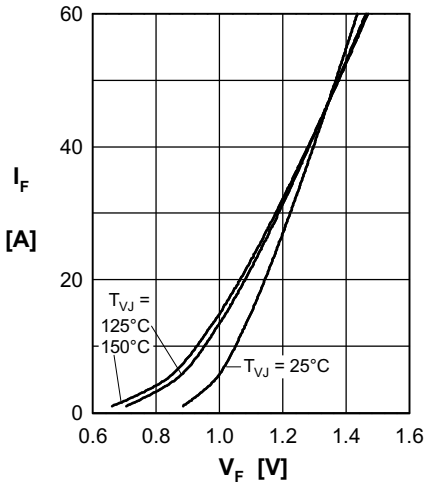

Fig. 1 Forward current vs. voltage drop per diode

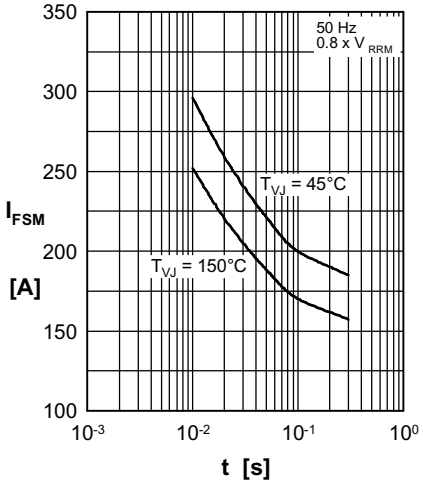

Fig. 2 Surge overload current vs. time per diode

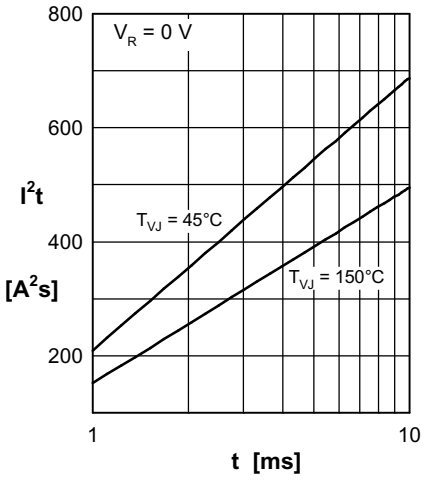

Fig. 3 I^2t vs. time per diode

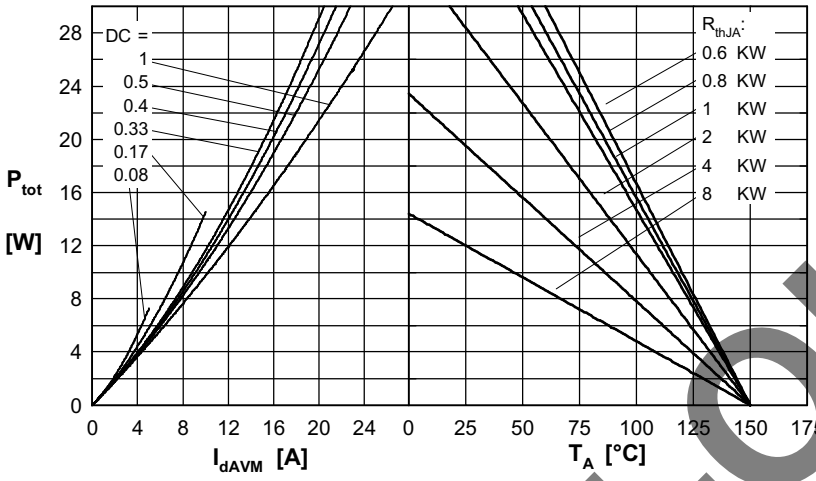

Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

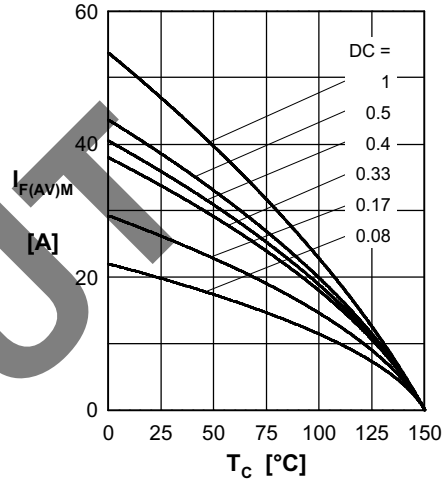

Fig. 5 Max. forward current vs. case temperature per diode

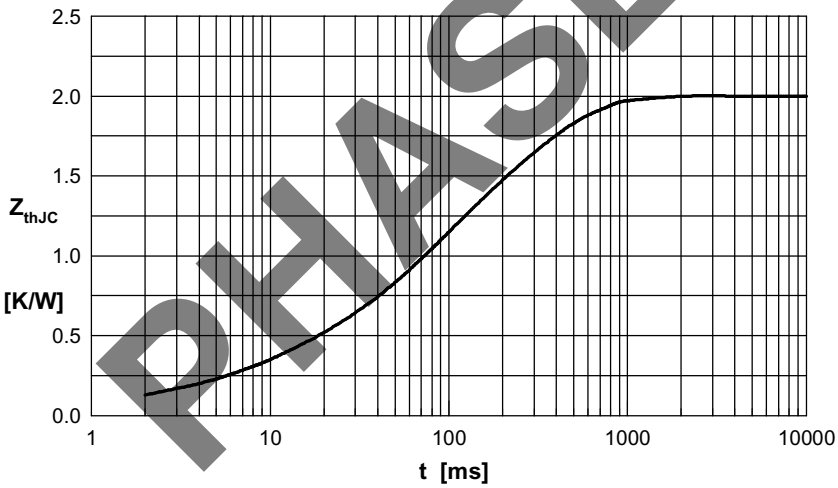

Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for Z_{thJC} calculation:

i	R_{th} (K/W)	t_i (s)
1	0.061	0.001
2	0.203	0.008
3	0.500	0.250
4	0.703	0.060
5	0.533	0.300