

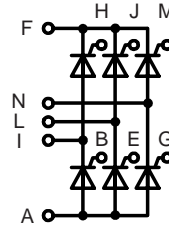
Three Phase Rectifier Bridge

$$I_{dAV} = 39 \text{ A}$$

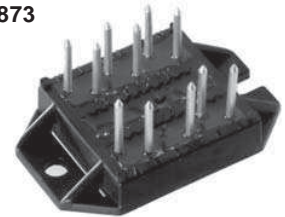
$$V_{RRM} = 600-1200 \text{ V}$$

Preliminary data

V_{RSM}	V_{RRM}	Type
V_{DSM}	V_{DRM}	
V	V	
700	600	VTO 39-06ho7
900	800	VTO 39-08ho7
1300	1200	VTO 39-12ho7



 E72873



Symbol	Conditions	Maximum Ratings	
I_{dAV} ①	$T_C = 85^\circ\text{C}$, module	39	A
I_{TAVM}	$T_C = 85^\circ\text{C}$; (180° sine ; per thyristor)	16	A
I_{TSM}	$T_{VJ} = 45^\circ\text{C}$;	$t = 10 \text{ ms}$ (50 Hz), sine	200 A
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	210 A
	$T_{VJ} = T_{VJM}$	$t = 10 \text{ ms}$ (50 Hz), sine	180 A
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	190 A
I^2t	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms}$ (50 Hz), sine	200 A ² s
	$V_R = 0$	$t = 8.3 \text{ ms}$ (60 Hz), sine	150 A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$	repetitive, $I_T = 20 \text{ A}$	100 A/ μs
	$f = 50\text{Hz}$, $t_p = 200\mu\text{s}$		
	$V_D = \frac{2}{3} V_{DRM}$	non repetitive, $I_T = I_{TAVM}$	500 A/ μs
	$I_G = 0.15 \text{ A}$		
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$;	$V_{DR} = \frac{2}{3} V_{DRM}$	500 V/ μs
	$R_{GK} = \infty$; method 1 (linear voltage rise)		
V_{RGM}		10	V
P_{GM}	$T_{VJ} = T_{VJM}$	$t_p = 30 \mu\text{s}$	$\leq 5 \text{ W}$
	$I_T = I_{TAVM}$	$t_p = 300 \mu\text{s}$	$\leq 2.5 \text{ W}$
P_{GAVM}			0.5 W
T_{VJ}		-40...+125	°C
T_{VJM}		125	°C
T_{stg}		-40...+125	°C
V_{ISOL}	50/60 Hz, RMS	$t = 1 \text{ min}$	2500 V~
	$I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ s}$	3000 V~
M_d	Mounting torque (M4)		1.5 - 2 Nm
			14 - 18 lb.in.
Weight	typ.	18	g

Features

- Package with DCB ceramic base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering

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 two screws
- Space and weight savings
- Improved temperature and power cycling capability
- Small and light weight

Data according to IEC 60747 refer to a single diode/thyristor unless otherwise stated.

① for resistive load at bridge output.

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

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Symbol	Conditions	Characteristic Values	
I_D, I_R	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	\leq	5 mA
V_T	$I_T = 20 \text{ A}; T_{VJ} = 25^\circ\text{C}$	\leq	1.6 V
V_{T0}	For power-loss calculations only ($T_{VJ} = 125^\circ\text{C}$)		0.85 V
r_T			27 m Ω
V_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	\leq	1.5 V
	$T_{VJ} = -40^\circ\text{C}$	\leq	2.5 V
I_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	\leq	25 mA
	$T_{VJ} = -40^\circ\text{C}$	\leq	50 mA
V_{GD}	$T_{VJ} = T_{VJM}; V_D = \frac{2}{3} V_{DRM}$	\leq	0.2 V
I_{GD}		\leq	3 mA
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.1 \text{ A}; di_G/dt = 0.1 \text{ A}/\mu\text{s}$	\leq	75 mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$	\leq	50 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = \frac{1}{2} V_{DRM}$ $I_G = 0.1 \text{ A}; di_G/dt = 0.1 \text{ A}/\mu\text{s}$	\leq	2 μs
R_{thJC}	per thyristor; DC		1.3 K/W
	per module		0.22 K/W
R_{thJH}	per thyristor; DC		1.8 K/W
	per module		0.3 K/W
d_s	Creeping distance on surface		11.2 mm
d_A	Creepage distance in air		5 mm
a	Max. allowable acceleration		50 m/s ²

Dimensions in mm (1 mm = 0.0394")

