

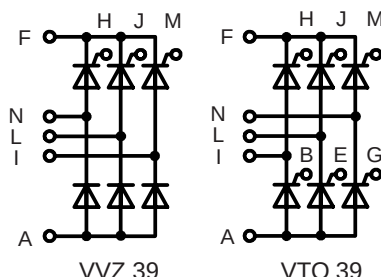
Three Phase Rectifier Bridge

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

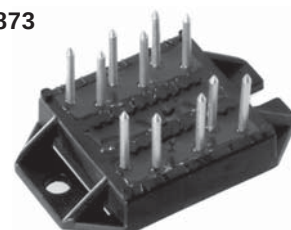
$$V_{RRM} = 600-1200 \text{ V}$$

Preliminary data

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



E72873



Pin arrangement see outlines

Symbol	Conditions		Maximum Ratings	
I _{dAV} ①	T _C = 85°C, module		39	A
I _{TAVM}	T _C = 85°C; (180° sine ; per thyristor)		16	A
I _{TSM}	T _{VJ} = 45°C; V _R = 0	t = 10 ms (50 Hz), sine	200	A
		t = 8.3 ms (60 Hz), sine	210	A
	T _{VJ} = T _{VJM} V _R = 0	t = 10 ms (50 Hz), sine	180	A
		t = 8.3 ms (60 Hz), sine	190	A
I ² t	T _{VJ} = 45°C V _R = 0	t = 10 ms (50 Hz), sine	200	A ² s
		t = 8.3 ms (60 Hz), sine	150	A ² s
	T _{VJ} = T _{VJM} V _R = 0	t = 10 ms (50 Hz), sine	160	A ² s
		t = 8.3 ms (60 Hz), sine	150	A ² s
(di/dt) _{cr}	T _{VJ} = T _{VJM} f = 50Hz, t _p = 200μs	repetitive, I _T = 20 A	100	A/μs
	V _D = ² / ₃ V _{DRM} I _G = 0.15 A di _G /dt = 0.15 A/μs	non repetitive, I _T = I _{TAVM}	500	A/μs
(dv/dt) _{cr}	T _{VJ} = T _{VJM} ; R _{GK} = ∞; method 1 (linear voltage rise)	V _{DR} = ² / ₃ V _{DRM}	500	V/μs
V _{RGM}			10	V
P _{GM}	T _{VJ} = T _{VJM} I _T = I _{TAVM}	t _p = 30 μs t _p = 300 μs	≤ 5 ≤ 2.5	W 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 min	2500	V~
	I _{ISOL} ≤ 1 mA	t = 1 s	3000	V~
M _d	Mounting torque (M4)		1.5 - 2	Nm
			14 - 18	lb.in.
Weight	typ.		18	g

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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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

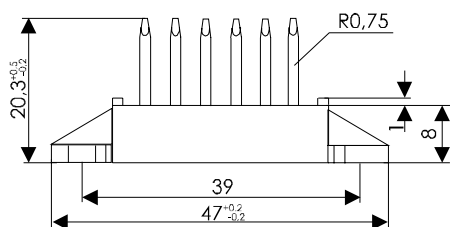
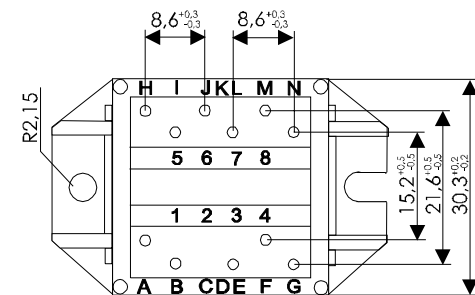
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Advantages

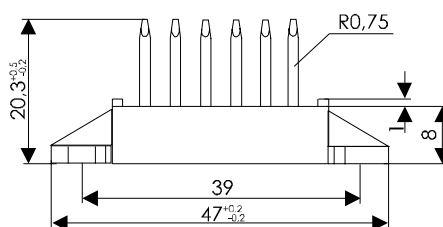
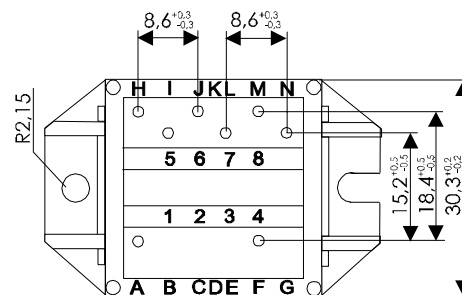
- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling capability
- Small and light weight

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	mΩ
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")



VTO 39



VVZ 39

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[VTO39-08ho7](#) [VTO39-12ho7](#)