

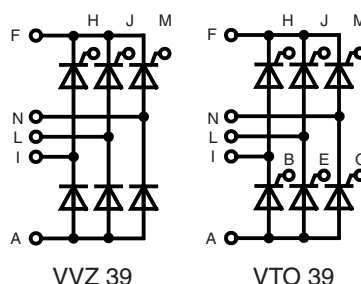
Three Phase Rectifier Bridge

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

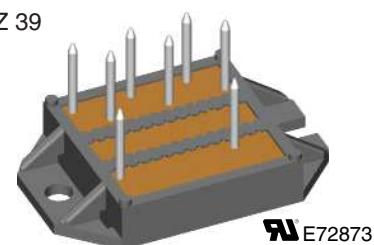
$$V_{RRM} = 800/1200 \text{ V}$$

Preliminary data

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

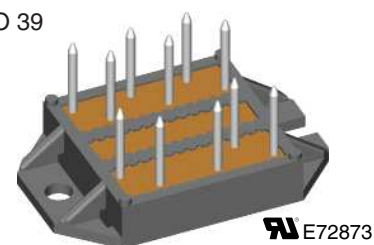


VVZ 39



E72873

VTO 39



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)	200 A
	$V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz)	210 A
	$T_{VJ} = T_{VJM}$ $t = 10 \text{ ms}$ (50 Hz)	180 A
	$V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz)	190 A
I^2t	$T_{VJ} = 45^\circ\text{C}$ $t = 10 \text{ ms}$ (50 Hz)	200 A ² s
	$V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz)	150 A ² s
	$T_{VJ} = T_{VJM}$ $t = 10 \text{ ms}$ (50 Hz)	160 A ² s
	$V_R = 0$ $t = 8.3 \text{ ms}$ (60 Hz)	150 A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $f = 50 \text{ Hz}$; $t_p = 200 \mu\text{s}$ $V_D = \frac{2}{3} V_{DRM}$ $I_G = 0.15 \text{ A}$ $di_G/dt = 0.15 \text{ A}/\mu\text{s}$	repetitive; $I_T = 20 \text{ A}$ 100 A/ μs
		non repetitive; $I_T = I_{TAVM}$ 500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_D = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$, method 1 (linear voltage rise)	500 V/ μs
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

① for resistive load at bridge output.

Disclaimer Notice

Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at www.littelfuse.com/disclaimer-electronics.

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

20200117b

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

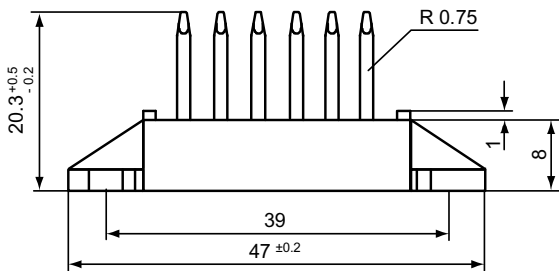
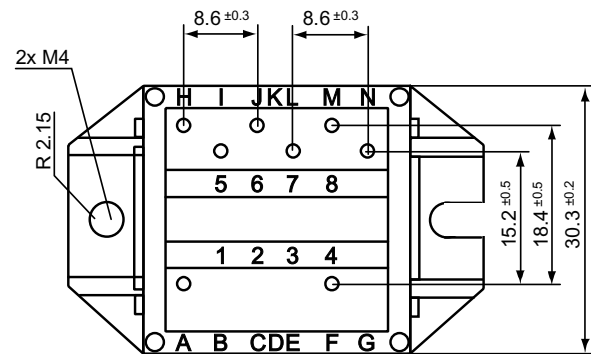
- Easy to mount with two screw
- Space and weight savings
- Improved temperature & power cycling capability
- Small and light weight

Data according to IEC 60747 and refer to a single diode unless otherwise stated

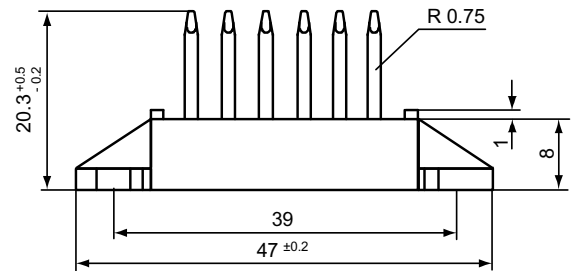
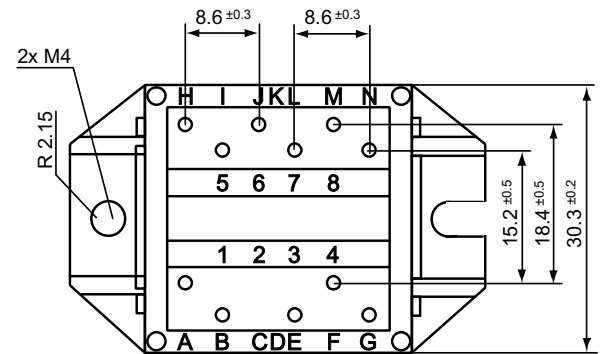


Symbol	Conditions	Characteristic Values			
$I_D; I_R$	$V_R = V_{RRM}; V_D = V_{DRM}$	$T_{VJ} = T_{VJM}$	$\leq$	5	mA
V_T	$I_T = 20$ A	$T_{VJ} = 25^\circ\text{C}$	$\leq$	1.6	V
V_{T0}	For power-loss calculations only	$T_{VJ} = 125^\circ\text{C}$		0.85	V
r_T				27	mΩ
V_{GT}	$V_D = 6$ V	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	$\leq$ $\leq$	1.5 2.5	V V
I_{GT}	$V_D = 6$ V	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	$\leq$ $\leq$	25 50	mA mA
V_{GD} I_{GD}	$V_D = \frac{2}{3}V_{DRM}$	$T_{VJ} = T_{VJM}$	$\leq$ $\leq$	0.2 3	V mA
I_L	$t_p = 10$ μs $I_G = 0.1$ A; $di_G/dt = 0.1$ A/μs	$T_{VJ} = 25^\circ\text{C}$	$\leq$	75	mA
I_H	$V_D = 6$ V; $R_{GK} = \infty$	$T_{VJ} = 25^\circ\text{C}$	$\leq$	50	mA
t_{gd}	$V_D = \frac{1}{2}V_{DRM}$ $I_G = 0.1$ A; $di_G/dt = 0.1$ A/μs	$T_{VJ} = 25^\circ\text{C}$	$\leq$	2	μs
R_{thJC}	per thyristor / diode; DC per module			1.3 0.22	K/W K/W
R_{thJH}	per thyristor / diode; DC per module			1.8 0.3	K/W 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")



VVZ 39



VTO 39