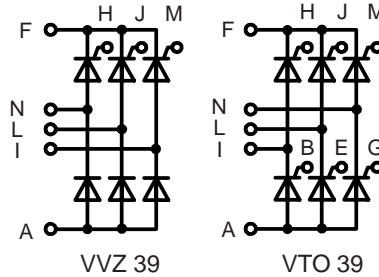


# Three Phase Rectifier Bridge

**$I_{dAV} = 39\text{ A}$**   
 **$V_{RRM} = 600\text{-}1200\text{ V}$**

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




Pin arrangement see outlines

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
$I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	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
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	t = 10 ms (50 Hz), sine	200 A <sup>2</sup> s
		t = 8.3 ms (60 Hz), sine	150 A <sup>2</sup> s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50Hz, $t_p = 200\mu\text{s}$ $V_D = \frac{2}{3} V_{DRM}$ $I_G = 0.15\text{ A}$ $di_G/dt = 0.15\text{ A}/\mu\text{s}$	repetitive, $I_T = 20\text{ A}$	100 A/ $\mu\text{s}$
		non repetitive, $I_T = I_{TAVM}$	500 A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $R_{GK} = \infty$ ; method 1 (linear voltage rise)	$V_{DR} = \frac{2}{3} V_{DRM}$	500 V/ $\mu\text{s}$
$V_{RGM}$		10	V
$P_{GM}$	$T_{VJ} = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30\ \mu\text{s}$	≤ 5 W
		$t_p = 300\ \mu\text{s}$	≤ 2.5 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 $I_{ISOL} \leq 1\text{ mA}$	t = 1 min	2500 V~
		t = 1 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.

© 2003 IXYS All rights reserved

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 <sup>2</sup>

Dimensions in mm (1 mm = 0.0394")

