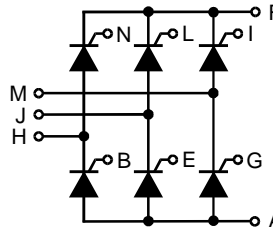


Three Phase Rectifier Bridge

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

Priliminary data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
700	600	VTO 39-06io7
900	800	VTO 39-08io7
1300	1200	VTO 39-12io7



Symbol	Test 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 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 = 50 Hz, $t_p = 200\ \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.15\text{ A}$	repetitive, $I_T = 20\text{ A}$ 100 A/μs
	$di_G/dt = 0.15\text{ A}/\mu\text{s}$	non repetitive, $I_T = I_{TAVM}$ 500 A/μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $R_{GK} = \infty$; method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$ 500 V/μs
V_{RGM}		10 V
P_{GM}	$T_{VJ} = T_{VJM}$	$t_p = 30\ \mu\text{s}$ ≤ 5 W
	$I_T = I_{TAVM}$	$t_p = 300\ \mu\text{s}$ ≤ 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	t = 1 min 2500 V~
	$I_{ISOL} \leq 1\text{ mA}$	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.

Symbol	Test 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}	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	\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}	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.1 \text{ A}; di_G/dt = 0.1 \text{ A}/\mu\text{s}$	\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")
