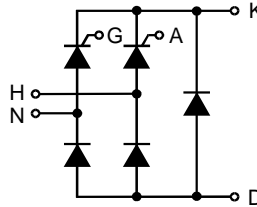# Single Phase Rectifier Bridge

I_{dAV} = 32 A

V_{RRM} = 600-1200 V

Preliminary data

V_{RSM} V_{DSM}	V_{RRM} V_{DRM}	Type
V	V	
700	600	VHF 25-06io7
900	800	VHF 25-08io7
1300	1200	VHF 25-12io7

Symbol	Test Conditions		Maximum Ratings	
I_{dAV} [1]	T_C = 85°C, module		32	A
I_{TAVM}/I_{FAVM}	T_C = 85°C; (180° sine ; per thyristor)		16	A
I_{TSM}/I_{FSM}	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
I²t	T_{VJ} = 45°C V_R = 0	t = 10 ms (50 Hz), sine	200	A²s
		t = 8.3 ms (60 Hz), sine	150	A²s
	T_{VJ} = T_{VJM} V_R = 0	t = 10 ms (50 Hz), sine	160	A²s
		t = 8.3 ms (60 Hz), sine	150	A²s
$(di/dt)_{cr}$	T_{VJ} = T_{VJM} f =50 Hz, t_P =200 µs V_D = 2/3 V_{DRM} I_G = 0.15 A di_G/dt = 0.15 A/µs	repetitive, I_T = 20 A	100	A/µs
		non repetitive, I_T = I_{TAVM}	500	A/µs
$(dv/dt)_{cr}$	T_{VJ} = T_{VJM}; V_{DR} = 2/3 V_{DRM} R_{GK} = ∞; method 1 (linear voltage rise)		500	V/µs
V_{RGM}			10	V
P_{GM}	T_{VJ} = T_{VJM} I_T = I_{TAVM}	t_p = 30 µs	≤ 5	W
		t_p = 300 µs	≤ 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} ≤ 1 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

- Supply for DC power equipment
- DC motor control

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	$I_T = 20$ A; $T_{VJ} = 25°C$		$\leq$	1.6	V
V_{T0}	For power-loss calculations only ($T_{VJ} = 125°C$)			0.85	V
r_T				27	mΩ
V_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$	$\leq$	1.5	V
		$T_{VJ} = -40°C$	$\leq$	2.5	V
I_{GT}	$V_D = 6$ V;	$T_{VJ} = 25°C$	$\leq$	25	mA
		$T_{VJ} = -40°C$	$\leq$	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	$T_{VJ} = 25°C$; $t_P = 10\ \mu s$ $I_G = 0.1$ A; $di_G/dt = 0.1$ A/μs		$\leq$	75	mA
I_H	$T_{VJ} = 25°C$; $V_D = 6$ V; $R_{GK} = \infty$		$\leq$	50	mA
t_{gd}	$T_{VJ} = 25°C$; $V_D = 1/2\ V_{DRM}$ $I_G = 0.1$ A; $di_G/dt = 0.1$ A/μs		$\leq$	2	μs
R_{thJC}	per thyristor; DC			1.3	K/W
	per module			0.22	K/W
R_{thJK}	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			9.5	mm
a	Max. allowable acceleration			50	m/s²

Dimensions in mm (1 mm = 0.0394")

002