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VHF 25

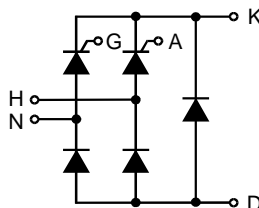
Single Phase Rectifier Bridge

$$I_{dAV} = 32 \text{ A}$$

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

Preliminary data

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



Symbol	Test Conditions	Maximum Ratings	
I_{dAV} ①	$T_C = 85^\circ\text{C}$, module	32 A	
I_{TAVM}/I_{FAVM}	$T_C = 85^\circ\text{C}$; (180° sine ; per thyristor)	16 A	
I_{TSM}/I_{FSM}	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0$	t = 10 ms (50 Hz), sine	200 A
		t = 8.3 ms (60 Hz), sine	210 A
I^2t	$T_{VJ} = T_{VJM}$ $V_R = 0$	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
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50 Hz, $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.15 \text{ A}$ $di_G/dt = 0.15 \text{ A}/\mu\text{s}$	repetitive, $I_T = 20 \text{ A}$	100 A/ μs
		non repetitive, $I_T = I_{TAVM}$	500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $R_{GK} = \infty$; method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$	500 V/ μs
V_{RGM}		10 V	
P_{GM}	$T_{VJ} = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30 \mu\text{s}$	≤ 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	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

- 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.

IXYS **VHF 25**

Symbol	Test Conditions	Characteristic Values
I_D, I_R	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	≤ 5 mA
V_T	$I_T = 20$ A; $T_{VJ} = 25^\circ\text{C}$	≤ 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; $T_{VJ} = 25^\circ\text{C}$	≤ 1.5 V
	$T_{VJ} = -40^\circ\text{C}$	≤ 2.5 V
I_{GT}	$V_D = 6$ V; $T_{VJ} = 25^\circ\text{C}$	≤ 25 mA
	$T_{VJ} = -40^\circ\text{C}$	≤ 50 mA
V_{GD}	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	≤ 0.2 V
I_{GD}		≤ 3 mA
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.1$ A; $di_G/dt = 0.1$ A/ μs	≤ 75 mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6$ V; $R_{GK} = \infty$	≤ 50 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.1$ A; $di_G/dt = 0.1$ A/ μs	≤ 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/s ²

Dimensions in mm (1 mm = 0.0394")

