

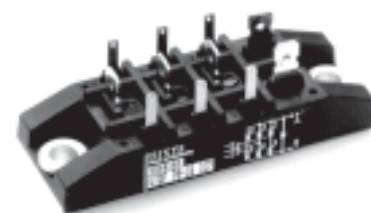
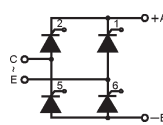
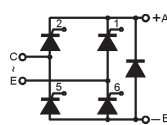
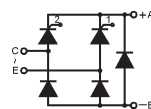
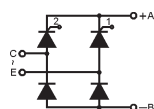
Single Phase Rectifier Bridge

$$I_{dAV} = 53 \text{ A}$$

$$V_{RRM} = 800-1600 \text{ V}$$

Preliminary data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
800	800	xxx 55-08io7
1200	1200	xxx 55-12io7
1400	1400	xxx 55-14io7
1600	1600	xxx 55-16io7
		xxx = type



Symbol	Test Conditions	Maximum Ratings	Features
I_{dAV} ①	$T_K = 85^\circ\text{C}$, module	53 A	- Package with copper base plate - Isolation voltage 3000 V~ - Planar passivated chips - Low forward voltage drop 1/4" fast-on power terminals
I_{dAVM} ①	module	53 A	
I_{FRMS} , I_{TRMS}	per leg	41 A	
I_{FSM} , I_{TSM}	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 550 A $t = 8.3 \text{ ms}$ (60 Hz), sine 600 A	Applications - Supplies for DC power equipment - Input rectifiers for PWM inverter - Battery DC power supplies - Field supply for DC motors
I^2t	$T_{VJ} = T_{VJM}$; $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 500 A $t = 8.3 \text{ ms}$ (60 Hz), sine 550 A	
	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 1520 A ² s $t = 8.3 \text{ ms}$ (60 Hz), sine 1520 A ² s	
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$; $f = 50 \text{ Hz}$; $t_p = 200 \mu\text{s}$	repetitive, $I_T = 50 \text{ A}$ 150 A/ μs	Advantages - Easy to mount with two screws - Space and weight savings - Improved temperature and power cycling capability - Small and light weight
	$V_D = 2/3 V_{DRM}$; $I_G = 0.3 \text{ A}$	non repetitive, $I_T = 1/2 \cdot I_{dAV}$ 500 A/ μs	
	$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = 2/3 V_{DRM}$; $R_{GK} = \infty$; method 1 (linear voltage rise) 1000 V/ μs	
V_{RGM}		10 V	Dimensions in mm (1 mm = 0.0394")
P_{GM}	$T_{VJ} = T_{VJM}$; $I_T = I_{TAVM}$	$t_p = 30 \mu\text{s} \leq 10 \text{ W}$ $t_p = 500 \mu\text{s} \leq 5 \text{ W}$ $t_p = 10 \text{ ms} \leq 1 \text{ W}$	
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; $I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ min}$ 2500 V~ $t = 1 \text{ s}$ 3000 V~	
M_d	Mounting torque (M5) (10-32 UNF)	5 ± 15 % Nm 44 ± 15 % lb.in.	
Weight		110 g	

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.

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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	$I_T = 80 \text{ A}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.64	V
V_{T0}	For power-loss calculations only		0.85	V
r_T			11	m Ω
V_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.5	V
	$T_{VJ} = -40^\circ\text{C}$	$\leq$	1.6	V
I_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	100	mA
	$T_{VJ} = -40^\circ\text{C}$	$\leq$	200	mA
V_{GD}	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	$\leq$	0.2	V
I_{GD}		$\leq$	5	mA
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$	$\leq$	450	mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$	$\leq$	200	mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$	$\leq$	2	μs
t_q	$T_{VJ} = T_{VJM}; I_T = 20 \text{ A}, t_p = 200 \mu\text{s}; di/dt = -10 \text{ A}/\mu\text{s}$ $V_R = 100 \text{ V}; dv/dt = 15 \text{ V}/\mu\text{s}; V_D = 2/3 V_{DRM}$	typ.	250	μs
R_{thJC}	per thyristor / Diode; DC per module		0.9 0.18	K/W
R_{thJK}	per thyristor / Diode; DC per module		1.1 0.22	K/W
d_s	Creeping distance on surface		16.1	mm
d_A	Creepage distance in air		7.1	mm
a	Max. allowable acceleration		50	m/s ²