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With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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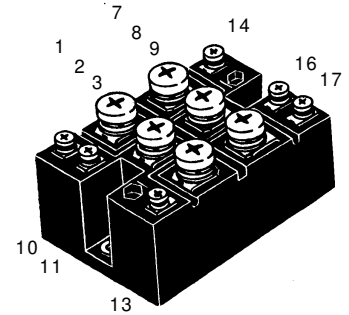
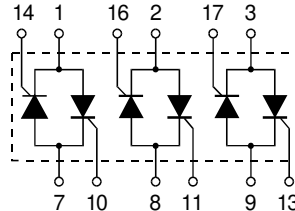


# Three Phase AC Controller Modules

$I_{RMS} = 50 \text{ A}$   
 $V_{RRM} = 800-1600 \text{ V}$

Preliminary data

$V_{RSM}$ $V_{DSM}$ V	$V_{RRM}$ $V_{DRM}$ V	Type
800	800	VWO 50-08io7
1200	1200	VWO 50-12io7
1400	1400	VWO 50-14io7
1600	1600	VWO 50-16io7



Symbol	Test Conditions	Maximum Ratings
$I_{RMS}$	$T_C = 85^\circ\text{C}$ , 50 - 400 Hz (per phase)	50 A
$I_{TRMS}$	$T_{VJ} = T_{VJM}$	36 A
$I_{TAVM}$	$T_C = 85^\circ\text{C}$ ; (180° sine)	23 A
$I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	t = 10 ms (50 Hz), sine 520 A
		t = 8.3 ms (60 Hz), sine 560 A
$I_{\beta t}$	$T_{VJ} = T_{VJM}$ ; $V_R = 0$	t = 10 ms (50 Hz), sine 460 A
		t = 8.3 ms (60 Hz), sine 500 A
$I_{\beta t}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	t = 10 ms (50 Hz), sine 1350 A <sup>2</sup> s
		t = 8.3 ms (60 Hz), sine 1320 A <sup>2</sup> s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; f = 50 Hz, $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$	repetitive, $I_T = 150 \text{ A}$ 100 A/ $\mu\text{s}$
	$I_G = 0.3 \text{ A}$ $di_G/dt = 0.3 \text{ A}/\mu\text{s}$	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)	$V_{DR} = 2/3 V_{DRM}$ 1000 V/ $\mu\text{s}$
$P_{GM}$	$T_{VJ} = T_{VJM}$	$t_p = 30 \mu\text{s}$ 10 W
	$I_T = I_{TAVM}$	$t_p = 300 \mu\text{s}$ 5 W
$P_{GAVM}$		0.5 W
$V_{RGM}$		10 V
$T_{VJ}$		-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 (M5)	5/44±15 % Nm/lb.in.
	Terminal connection torque (M3; M5)	1.5/13±15 % Nm/lb.in.
Weight	typ.	180 g

### Features

- Thyristor controller for AC (circuit W3C acc. to IEC) for mains frequency
- Package with metal base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- UL applied

### Applications

- Switching and control of three phase AC circuits
- Softstart AC motor controller
- Solid state switches
- Light and temperature control

### Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling
- High power density

Data according to IEC 60747 refer to a single thyristor/diode unless otherwise stated.  
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
$V_T$	$I_T = 80 \text{ A}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.65 V
$V_{T0}$	For power-loss calculations only		0.85 V
$r_T$			11 m $\Omega$
$V_{GT}$	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.0 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
	$T_{VJ} = -40^\circ\text{C}$	$\leq$	150 mA
$V_{GD}$	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	$\leq$	0.2 V
$I_{GD}$		$\leq$	5 mA
$I_L$	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.3 \text{ A}; di_G/dt = 0.3 \text{ A}/\mu\text{s}$	$\leq$	200 mA
$I_H$	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$	$\leq$	150 mA
$t_{gd}$	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.3 \text{ A}; di_G/dt = 0.3 \text{ A}/\mu\text{s}$	$\leq$	2 $\mu\text{s}$
$t_q$	$T_{VJ} = T_{VJM}; I_T = 20 \text{ A}, t_p = 200 \mu\text{s}; di/dt = -10 \text{ A}/\mu\text{s}$ $V_R = 100 \text{ V}; dv/dt = 15 \text{ V}/\mu\text{s}; V_D = 2/3 V_{DRM}$	typ.	150 $\mu\text{s}$
$R_{thJC}$	per thyristor; sine 180°el		1.20 K/W
	per module		0.20 K/W
$R_{thJK}$	per thyristor; sine 180°el		1.31 K/W
	per module		0.218 K/W
$d_s$	Creeping distance on surface		8.0 mm
$d_A$	Creepage distance in air		4.5 mm
$a$	Max. allowable acceleration		50 m/s <sup>2</sup>

**Dimensions in mm (1 mm = 0.0394")**
