

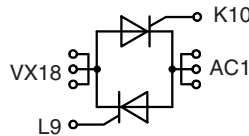
AC Controller Modules

ECO-PAC 2

$I_{RMS} = 230 \text{ A}$
 $V_{RRM} = 800 - 1800 \text{ V}$

Preliminary Data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
900	800	MMO230-08io7
1300	1200	MMO230-12io7
1500	1400	MMO230-14io7
1700	1600	MMO230-16io7
1900	1800	MMO230-18io7



Symbol	Conditions	Maximum Ratings		
I_{RMS}	$T_C = 85^\circ\text{C}$; 50-400 Hz (per single controller)	230	A	
I_{TRMS}		180	A	
I_{TAVM}	$T_C = 85^\circ\text{C}$; 180° sine	105	A	
I_{TSM}	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0 \text{ V}$; t = 10 ms (50 Hz), sine	2250	A	
	t = 8.3 ms (60 Hz), sine	2400	A	
I^2dt	$T_{VJ} = 125^\circ\text{C}$; $V_R = 0 \text{ V}$; t = 10 ms (50 Hz), sine	2000	A	
	t = 8.3 ms (60 Hz), sine	2150	A	
I^2dt	$T_{VJ} = 45^\circ\text{C}$; $V_R = 0 \text{ V}$; t = 10 ms (50 Hz), sine	25300	A ² s	
	t = 8.3 ms (60 Hz), sine	23900	A ² s	
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$; f = 50 Hz; $t_p = 200 \mu\text{s}$; $V_D = \frac{2}{3}V_{DRM}$; $I_G = 0.45 \text{ A}$; $di_G/dt = 0.45 \text{ A}/\mu\text{s}$;	repetitive, $I_T = 250 \text{ A}$	150	A/ μs
		non repetitive, $I_T = I_{TAVM}$	500	A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$; $V_{DR} = \frac{2}{3}V_{DRM}$; $R_{GK} = \infty$, method 1 (linear voltage rise)		1000	V/ μs
P_{GM}	$T_{VJ} = 125^\circ\text{C}$; $t_p = 30 \text{ ms}$	≤ 10	W	
	$I_T = I_{TAVM}$; $t_p = 300 \text{ ms}$	≤ 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; $I_{ISOL} \leq 1 \text{ mA}$	t = 1 min	3000	V ~
		t = 1 s	3600	V ~
M_d	Mounting torque (M4)		1.5 - 2.0	Nm
			14 - 18	lb.in.
Weight	typ.		26	g

Features

- Thyristor controller for AC (circuit W1C acc. to IEC) for mains frequency
- Isolation voltage 3000 V~
- Planar glass passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering

Applications

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

Advantages

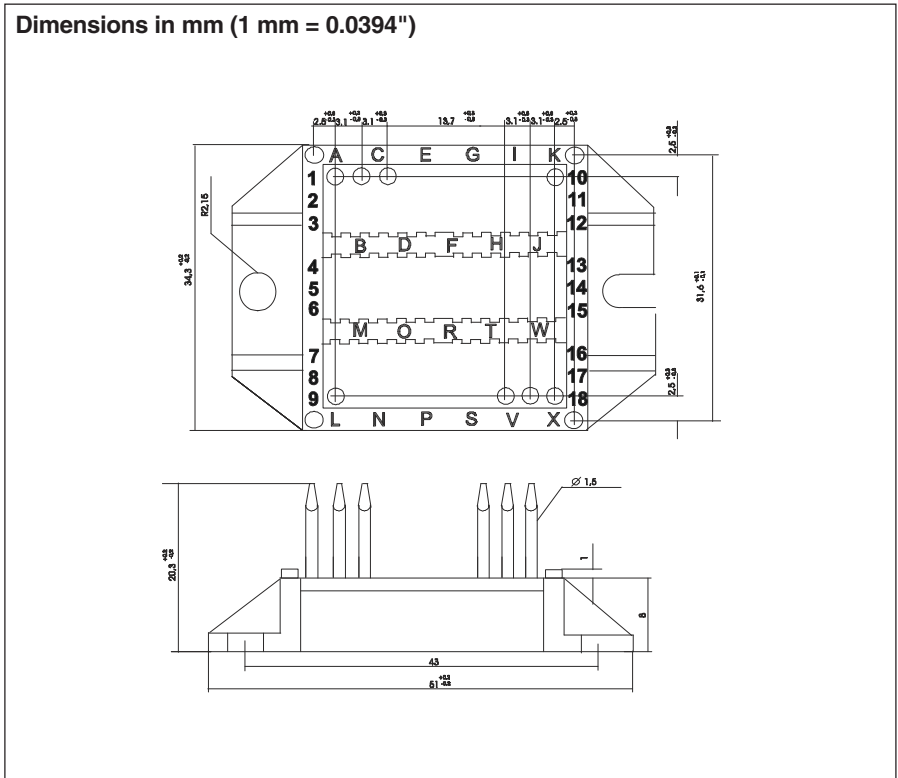
- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling
- High power density
- Small and light weight

Data according to IEC 60747 refer to a single thyristor unless otherwise stated

IXYS reserves the right to change limits, test conditions and dimensions.

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Component		Characteristic Values		
Symbol	Conditions	min.	typ.	max.
		I_D, I_R	$T_{VJ} = 125^\circ\text{C}; V_R = V_{RRM}; V_D = V_{DRM}$	
V_T	$I_T = 300 \text{ A}; T_{VJ} = 25^\circ\text{C}$			1.5 V
V_{TO}	For power-loss calculations only			0.8 V
r_T				2.4 mΩ
V_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			1.5 V 1.6 V
I_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			150 mA 200 mA
V_{GD}	$T_{VJ} = 125^\circ\text{C}; V_D = \frac{2}{3}V_{DRM}$			0.2 V
I_{GD}	$T_{VJ} = 125^\circ\text{C}; V_D = \frac{2}{3}V_{DRM}$			10 mA
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \text{ ms}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$			450 mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$			200 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = \frac{1}{2}V_{DRM}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$			2 μs
R_{thJC}	per Thyristor; DC per module			0.26 KW 0.13 KW
R_{thCH}	per Thyristor; DC per module		0,2 0,1	KW KW
d_s	Creeping distance on surface			11.2 mm
d_A	Creeping distance in air			5.0 mm
a	Max. allowable acceleration			50 m/s ²



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