

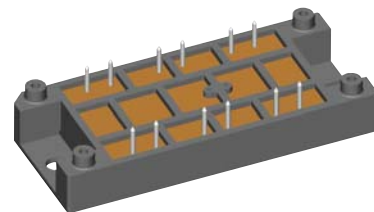
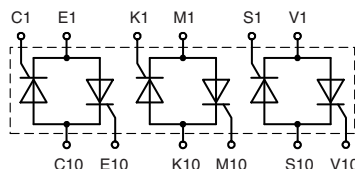
Three Phase AC Controller Modules

$$I_{RMS} = 3 \times 83 \text{ A}$$

$$V_{RRM} = 1200-1600 \text{ V}$$

Preliminary data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
1300	1200	VWO 85-12io1
1500	1400	VWO 85-14io1
1700	1600	VWO 85-16io1



pin configuration see outlines

Symbol	Conditions	Max. Ratings per phase	
I_{RMS}	$T_C = 85^\circ\text{C}$; 50 - 400 Hz (per phase)	59	A
I_{RMS}	$T_C = 85^\circ\text{C}$; 50 - 400 Hz (per phase) for 10 sec.	83	A
I_{TAVM}	$T_C = 85^\circ\text{C}$; (180° sine)	27	A
I_{TSM}	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	520	A
	$t = 8.3 \text{ ms}$ (60 Hz), sine	560	A
	$T_{VJ} = 125^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	470	A
	$t = 8.3 \text{ ms}$ (60 Hz), sine	510	A
I^2t	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	1350	A ² s
	$t = 8.3 \text{ ms}$ (60 Hz), sine	1320	A ² s
	$T_{VJ} = 125^\circ\text{C}$ $V_R = 0$ $t = 10 \text{ ms}$ (50 Hz), sine	1100	A ² s
	$t = 8.3 \text{ ms}$ (60 Hz), sine	1090	A ² s
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$ $f = 50 \text{ Hz}$, $t_p = 200 \mu\text{s}$ $V_D = \frac{2}{3} V_{DRM}$ $I_G = 0.45 \text{ A}$ $di_G/dt = 0.45 \text{ A}/\mu\text{s}$	repetitive, $I_T = 45 \text{ A}$	150 A/ μs
		non repetitive, $I_T = I_{TAVM}$	500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	$V_{DR} = \frac{2}{3} V_{DRM}$	1000 V/ μs
P_{GM}	$T_{VJ} = 125^\circ\text{C}$ $I_T = I_{TAVM}$ $t_p = 180 \mu\text{s}$	10	W
	$t_p = 300 \mu\text{s}$	5	W
P_{GAVM}		0.5	W
V_{RGM}		10	V
T_{VJ}		-40...+125	$^\circ\text{C}$
T_{VJM}	for 10 sec.	150	$^\circ\text{C}$
T_{stg}		-40...+125	$^\circ\text{C}$
V_{ISOL}	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ min}$	3000	V~
	$t = 1 \text{ s}$	3600	V~
M_d	Mounting torque (M5)	2-2.5	Nm.
		18-22	lb.in.
Weight	typ.	80	g

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

Features

- Thyristor controller for AC (circuit W3C acc. to IEC) for mains frequency
- Package with DCB base plate
- Isolation voltage 3600 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

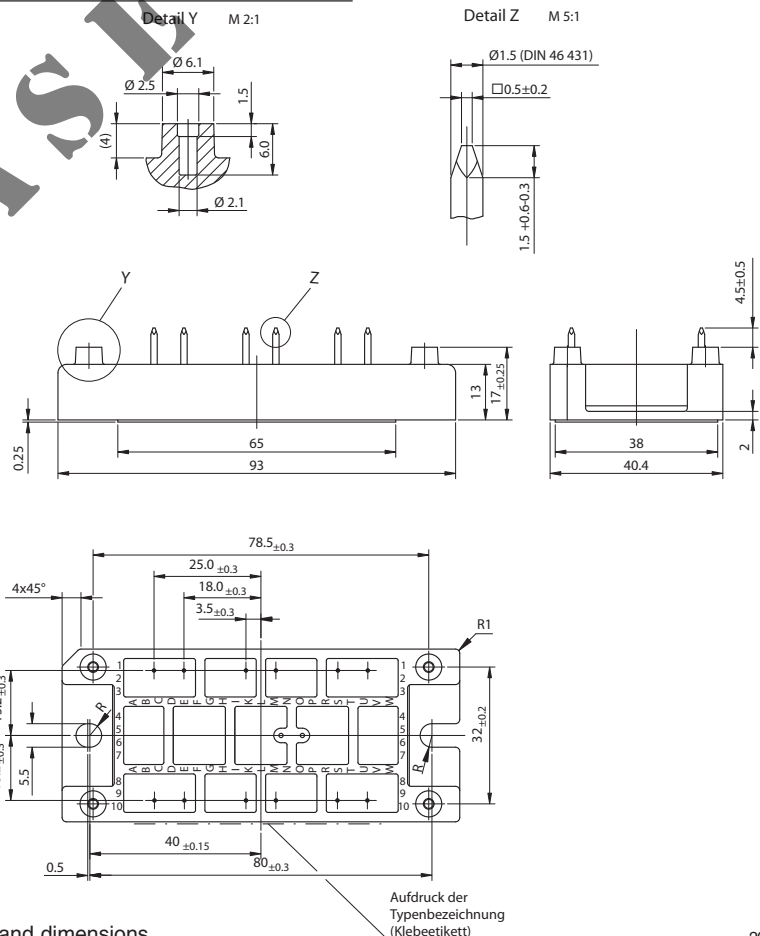
Advantages

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

Recommended replacement:
3x MMO62/74-12/14/16 io6

Symbol	Conditions	Characteristic Values
I_D, I_R	$T_{VJ} = 125^\circ\text{C}; V_R = V_{RRM}; V_D = V_{DRM}$	≤ 5 mA
V_T	$I_T = 85$ A; $T_{VJ} = 25^\circ\text{C}$	≤ 1.67 V
V_{T0}	For power-loss calculations only	0.85 V
r_T		11 mΩ
V_{GT}	$V_D = 6$ V $T_{VJ} = 25^\circ\text{C}$	≤ 1.5 V
	$T_{VJ} = -40^\circ\text{C}$	≤ 1.6 V
I_{GT}	$V_D = 6$ V $T_{VJ} = 25^\circ\text{C}$	≤ 100 mA
	$T_{VJ} = -40^\circ\text{C}$	≤ 200 mA
V_{GD}	$T_{VJ} = 125^\circ\text{C}$ $V_D = \frac{2}{3} V_{DRM}$	≤ 0.2 V
I_{GD}		≤ 5 mA
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10$ μs $I_G = 0.45$ A; $di_G/dt = 0.45$ A/μs	≤ 450 mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6$ V; $R_{GK} = \infty$	≤ 200 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = \frac{1}{2} V_{DRM}$ $I_G = 0.45$ A; $di_G/dt = 0.45$ A/μs	≤ 2 μs
t_q	$T_{VJ} = 125^\circ\text{C}; I_T = 20$ A, $t_p = 200$ μs; $di/dt = -10$ A/μs $V_R = 100$ V; $dv/dt = 15$ V/μs; $V_D = \frac{2}{3} V_{DRM}$	typ. 150 μs
R_{thJC}	per thyristor	0.92 K/W
	per module	0.154 K/W
R_{thJK}	per thyristor	1.22 K/W
	per module	0.204 K/W
d_s	Creeping distance on surface	12.7 mm
d_A	Creepage distance in air	9.4 mm
a	Max. allowable acceleration	50 m/s ²

Dimensions in mm (1 mm = 0.0394")



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

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