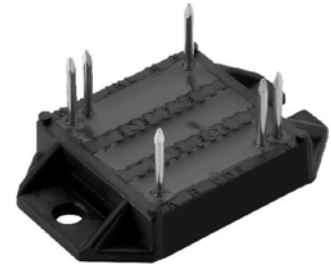
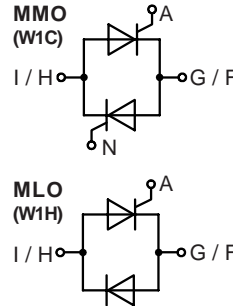


AC Controller Modules

I_{RMS} = 140 A
V_{RRM} = 800-1600 V

Preliminary Data

V _{RSM}	V _{RRM}	Type	
V _{DSM}	V _{DRM}		
V	V		
800	800	MMO 140-08io7	MLO 140-08io7
1200	1200	MMO 140-12io7	MLO 140-12io7
1600	1600	MMO 140-16io7	MLO 140-16io7



Symbol	Conditions	Maximum Ratings	
I _{RMS}	T _C = 85°C, 50 - 400 Hz, (per single controller)	130	A
I _{TRMS}		90	A
I _{TAVM}	T _C = 85°C; 180° sine, per Thyristor	58	A
I _{TSM}	T _{VJ} = 45°C V _R = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	1150 A 1230 A
	T _{VJ} = 125°C V _R = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	1000 A 1070 A
I ² t	T _{VJ} = 45°C V _R = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	6600 A ² s 6280 A ² s
	T _{VJ} = 125°C V _R = 0	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	5000 A ² s 4750 A ² s
(di/dt) _{cr}	T _{VJ} = 125°C f = 50 Hz, t _p = 200 μs	repetitive, I _T = 60 A	150 A/μs
	V _D = 2/3 V _{DRM} I _G = 0.45 A di _G /dt = 0.45 A/μs	non repetitive, I _T = I _{TAVM}	500 A/μs
(dv/dt) _{cr}	T _{VJ} = 125°C; V _{DR} = 2/3 V _{DRM} R _{GK} = ∞; method 1 (linear voltage rise)		1000 V/μs
P _{GM}	T _{VJ} = 125°C	t _p = 30 μs	10 W
	I _T = I _{TAVM}	t _p = 300 μs	5 W
P _{GAVM}			0.5 W
V _{RGM}			10 V
T _{VJ}			-40...+150 °C
T _{VJM}			150 °C
T _{stg}			-40...+125 °C
V _{ISOL}	50/60 Hz, RMS	t = 1 min	2500 V~
	I _{ISOL} ≤ 1 mA	t = 1 s	3000 V~
M _d	Mounting torque (M4)		1.5...2.0/14...18 Nm/lb.in.
Weight	typ.		18 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
- Lead suitable for PC board solering

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 and to a single thyristor/diode unless otherwise stated. IXYS reserves the right to change limits, test conditions and dimensions.

Symbol	Conditions	Characteristic Values	
I_D, I_R	$T_{VJ} = 125^\circ\text{C}; V_R = V_{RRM}; V_D = V_{DRM}$	\leq	5 mA
V_T	$I_T = 200 \text{ A}; T_{VJ} = 25^\circ\text{C}$	\leq	1.75 V
V_{T0}	For power-loss calculations only		0.85 V
r_T			5.2 m Ω
V_{GT}	$V_D = 6 \text{ V}$	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	\leq 1.5 V \leq 1.6 V
I_{GT}	$V_D = 6 \text{ V}$	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	\leq 100 mA \leq 200 mA
V_{GD}	$T_{VJ} = 125^\circ\text{C}; V_D = \frac{2}{3} V_{DRM}$	\leq	0.2 V
I_{GD}		\leq	10 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}	$T_{VJ} = 25^\circ\text{C}; V_D = \frac{1}{2} V_{DRM}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$	\leq	2 μs
R_{thJC}	per thyristor; DC per module		0.7 K/W 0.35 K/W
R_{thCH}	per thyristor; sine 180° el per module	typ. typ.	0.12 K/W 0.06 K/W
d_s	Creeping distance on surface		11.2 mm
d_A	Creepage distance in air		17.0 mm
a	Max. allowable acceleration		50 m/s ²

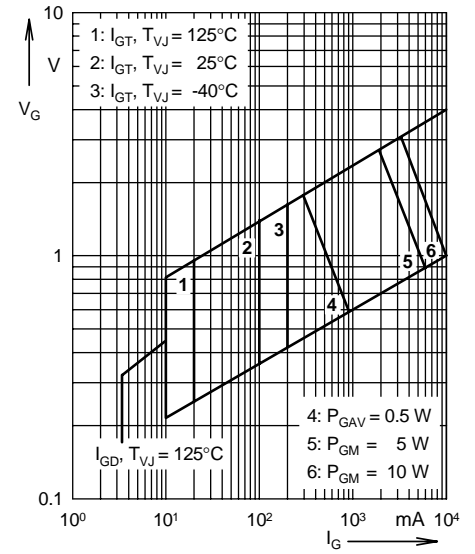


Fig. 1 Gate trigger characteristics

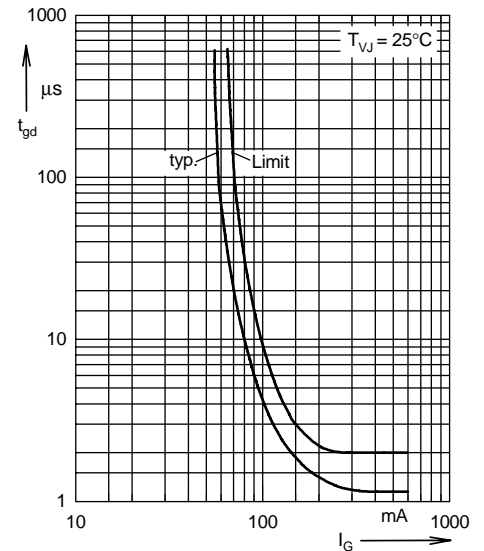


Fig. 2 Gate trigger delay time

Dimensions in mm (1 mm = 0.0394")
