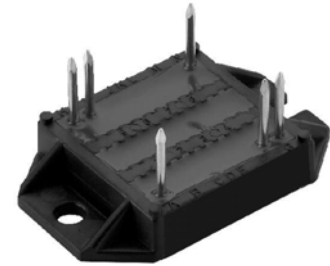
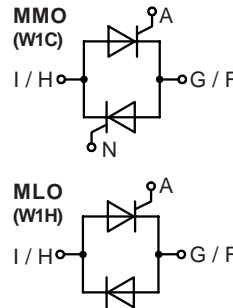


# AC Controller Modules

**I<sub>RMS</sub> = 175 A**  
**V<sub>RRM</sub> = 800-1600 V**

## Preliminary Data

V <sub>RSM</sub>	V <sub>RRM</sub>	Type	
V <sub>DSM</sub>	V <sub>DRM</sub>		
V	V		
800	800	MMO 175-08io7	MLO 175-08io7
1200	1200	MMO 175-12io7	MLO 175-12io7
1600	1600	MMO 175-16io7	MLO 175-16io7



Symbol	Conditions	Maximum Ratings	
I <sub>RMS</sub>	T <sub>C</sub> = 85°C, 50 - 400 Hz, (per single controller)	175	A
I <sub>TRMS</sub>		125	A
I <sub>TAVM</sub>	T <sub>C</sub> = 85°C; 180° sine	80	A
I <sub>TSM</sub>	T <sub>VJ</sub> = 45°C	t = 10 ms (50 Hz), sine	1500 A
	V <sub>R</sub> = 0	t = 8.3 ms (60 Hz), sine	1600 A
	T <sub>VJ</sub> = 125°C	t = 10 ms (50 Hz), sine	1350 A
	V <sub>R</sub> = 0	t = 8.3 ms (60 Hz), sine	1450 A
I <sup>2</sup> t	T <sub>VJ</sub> = 45°C	t = 10 ms (50 Hz), sine	11200 A <sup>2</sup> s
	V <sub>R</sub> = 0	t = 8.3 ms (60 Hz), sine	10750 A <sup>2</sup> s
(di/dt) <sub>cr</sub>	T <sub>VJ</sub> = 125°C	repetitive, I <sub>T</sub> = 80 A	150 A/μs
	f = 50 Hz, t <sub>p</sub> = 200 μs		
	V <sub>D</sub> = 2/3 V <sub>DRM</sub>	non repetitive, I <sub>T</sub> = I <sub>TAVM</sub>	500 A/μs
	I <sub>G</sub> = 0.45 A		
	di <sub>G</sub> /dt = 0.45 A/μs		
(dv/dt) <sub>cr</sub>	T <sub>VJ</sub> = 125°C; V <sub>DR</sub> = 2/3 V <sub>DRM</sub> R <sub>GK</sub> = ∞; method 1 (linear voltage rise)	1000	V/μs
P <sub>GM</sub>	T <sub>VJ</sub> = 125°C	t <sub>p</sub> = 30 μs	10 W
	I <sub>T</sub> = I <sub>TAVM</sub>	t <sub>p</sub> = 300 μs	5 W
P <sub>GAVM</sub>		0.5	W
V <sub>RGM</sub>		10	V
T <sub>VJ</sub>		-40...+150	°C
T <sub>VJM</sub>		150	°C
T <sub>stg</sub>		-40...+125	°C
V <sub>ISOL</sub>	50/60 Hz, RMS	t = 1 min	2500 V~
	I <sub>ISOL</sub> ≤ 1 mA	t = 1 s	3000 V~
M <sub>d</sub>	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.

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
$V_T$	$I_T = 200 \text{ A}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.57 V
$V_{T0}$	For power-loss calculations only		0.85 V
$r_T$			3.7 m $\Omega$
$V_{GT}$	$V_D = 6 \text{ V}$	$T_{VJ} = 25^\circ\text{C}$	$\leq$ 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
$V_{GD}$	$T_{VJ} = 125^\circ\text{C}; V_D = \frac{2}{3} V_{DRM}$	$\leq$	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 $\mu\text{s}$
$R_{thJC}$	per thyristor; DC		0.5 K/W
	per module		0.25 K/W
$R_{thCH}$	per thyristor; sine 180° el	typ.	0.12 K/W
	per module	typ.	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 <sup>2</sup>

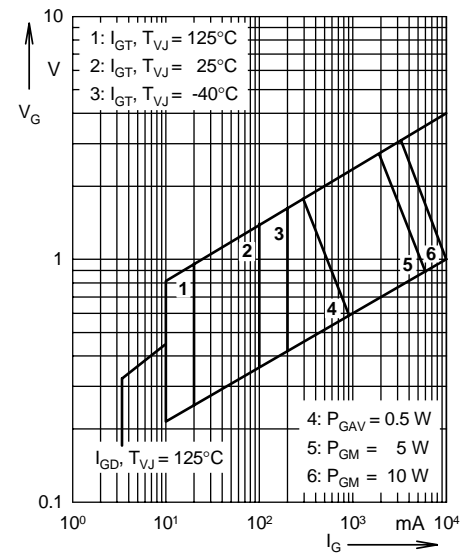


Fig. 1 Gate trigger characteristics

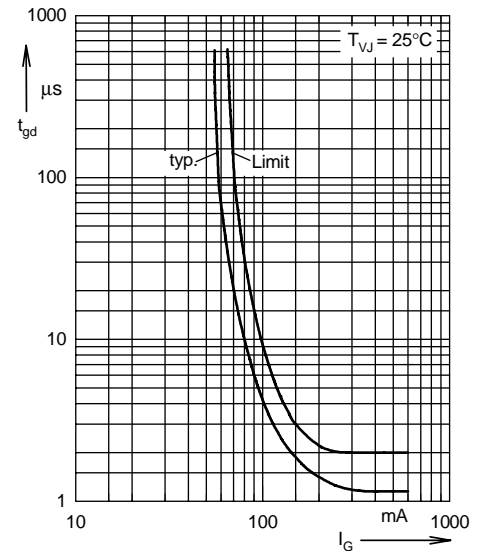


Fig. 2 Gate trigger delay time

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