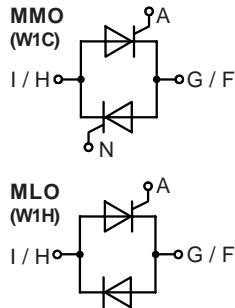


## AC Controller Modules

 $I_{RMS} = 112 \text{ A}$   
 $V_{RRM} = 800-1400 \text{ V}$ 

## Preliminary Data

$V_{RSM}$	$V_{RRM}$	Type
$V_{DSM}$	$V_{DRM}$	
V	V	
800	800	MMO 110-08io7
1200	1200	MMO 110-12io7
1400	1400	MMO 110-14io7
		MLO 110-08io7
		MLO 110-12io7
		MLO 110-14io7



Symbol	Conditions	Maximum Ratings	
$I_{RMS}$	$T_C = 85^\circ\text{C}$ , 50 - 400 Hz, module	112	A
$I_{TRMS}$		81	A
$I_{TAVM}$	$T_C = 85^\circ\text{C}$ ; (180° sine)	51	A
$I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine $t = 8.3 \text{ ms}$ (60 Hz), sine	1000 1070
	$T_{VJ} = 125^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine $t = 8.3 \text{ ms}$ (60 Hz), sine	870 930
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine $t = 8.3 \text{ ms}$ (60 Hz), sine	5000 4810
	$T_{VJ} = 125^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine $t = 8.3 \text{ ms}$ (60 Hz), sine	3780 3630
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$ $f = 50 \text{ Hz}$ , $t_p = 200 \mu\text{s}$	repetitive, $I_T = 50 \text{ A}$	100
	$V_D = \frac{2}{3} V_{DRM}$ $I_G = 0.45 \text{ A}$ $di_G/dt = 0.45 \text{ A}/\mu\text{s}$		$A/\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$ ; $V_{DR} = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$ ; method 1 (linear voltage rise)	1000	$\text{V}/\mu\text{s}$
$P_{GM}$	$T_{VJ} = 125^\circ\text{C}$ $I_T = I_{TAVM}$	$t_p = 30 \mu\text{s}$ $t_p = 300 \mu\text{s}$	10 5
$P_{GAVM}$			0.5
$V_{RGM}$		10	V
$T_{VJ}$		-40...+150	$^\circ\text{C}$
$T_{VJM}$		150	$^\circ\text{C}$
$T_{stg}$		-40...+125	$^\circ\text{C}$
$V_{ISOL}$	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ min}$ $t = 1 \text{ s}$	2500 3000
$M_d$	Mounting torque (M4)	1.5...2.0/14...18	Nm/lb.in.
<b>Weight</b>	typ.	18	g

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		
$I_D, I_R$	$T_{VJ} = 125^\circ C; V_R = V_{RRM}; V_D = V_{DRM}$	$\leq$	5	mA
$V_T$	$I_T = 150 A; T_{VJ} = 25^\circ C$	$\leq$	1.57	V
$V_{TO}$	For power-loss calculations only	0.85	V	
$r_T$		5.6	mΩ	
$V_{GT}$	$V_D = 6 V$	$T_{VJ} = 25^\circ C$	$\leq$	1.5 V
		$T_{VJ} = -40^\circ C$	$\leq$	1.9 V
$I_{GT}$	$V_D = 6 V$	$T_{VJ} = 25^\circ C$	$\leq$	100 mA
		$T_{VJ} = -40^\circ C$	$\leq$	200 mA
$V_{GD}$	$T_{VJ} = 125^\circ C; V_D = \frac{2}{3} V_{DRM}$	$\leq$	0.2 V	
$I_{GD}$		$\leq$	1 mA	
$I_L$	$T_{VJ} = 25^\circ C; t_p = 10 \mu s$	$\leq$	200	mA
	$I_G = 0.45 A; di_G/dt = 0.45 A/\mu s$			
$I_H$	$T_{VJ} = 25^\circ C; V_D = 6 V; R_{GK} = \infty$	$\leq$	100	mA
$t_{gd}$	$T_{VJ} = 25^\circ C; V_D = \frac{1}{2} V_{DRM}$	$\leq$	2	μs
	$I_G = 0.45 A; di_G/dt = 0.45 A/\mu s$			
$R_{thJC}$	per thyristor; DC	0.8	K/W	
	per module	0.4	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>	

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

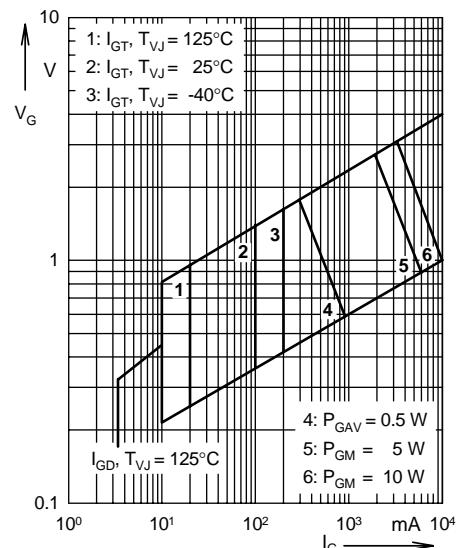
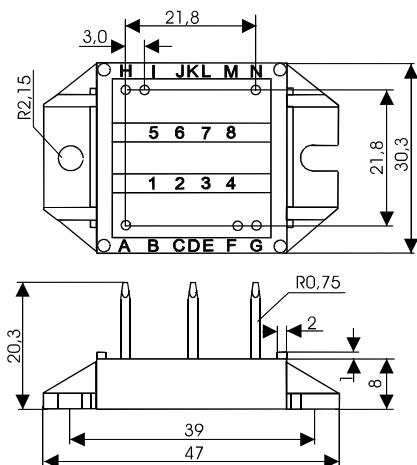


Fig. 1 Gate trigger characteristics

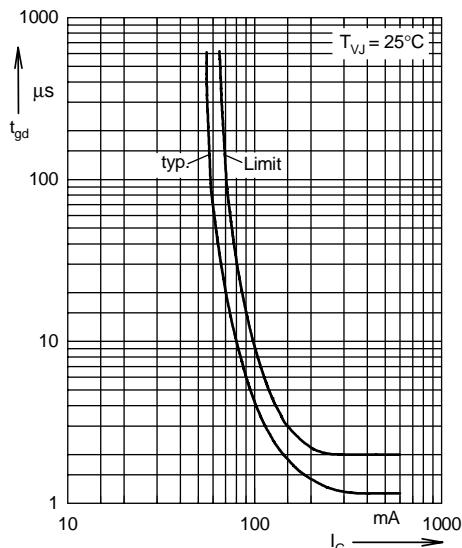


Fig. 2 Gate trigger delay time