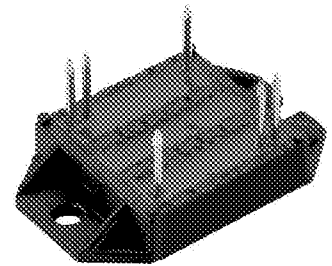
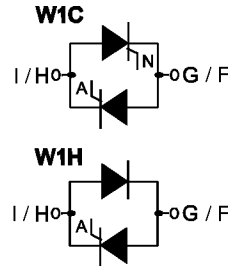


AC Controller Modules in ECO-PAC™

$$I_{RMS} = 140 \text{ A}$$

$$V_{RRM} = 800-1600 \text{ V}$$

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}	$T_C = 85^\circ\text{C}$, 50 - 400 Hz, (per single controller)	130	A
I_{TRMS}		90	A
I_{TAVM}	$T_C = 85^\circ\text{C}$; 180° sine, per Thyristor	58	A
I_{TSM}	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	1150 A 1230 A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	1000 A 1070 A
I^2t	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	6600 A ² s 6280 A ² s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz), sine t = 8.3 ms (60 Hz), sine	5000 A ² s 4750 A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ 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, $I_T = 60 \text{ A}$	150 A/ μs
		non repetitive, $I_T = I_{TAVM}$	500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)		1000 V/ μs
P_{GM}	$T_{VJ} = T_{VJM}$	$t_p = 30 \mu\text{s}$	10 W
	$I_T = I_{TAVM}$	$t_p = 300 \mu\text{s}$	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~
	$I_{ISOL} \leq 1 \text{ mA}$	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.

Symbol	Conditions	Characteristic Values	
I_D, I_R	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	≤ 5 mA	
V_T	$I_T = 200$ A; $T_{VJ} = 25^\circ\text{C}$	≤ 1.75 V	
V_{T0}	For power-loss calculations only	0.85 V	
r_T		5.2 m Ω	
V_{GT}	$V_D = 6$ V	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	≤ 1.5 V ≤ 1.6 V
I_{GT}	$V_D = 6$ V	$T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$	≤ 100 mA ≤ 200 mA
V_{GD}	$T_{VJ} = T_{VJM}; V_D = \frac{2}{3} V_{DRM}$		≤ 0.2 V
I_{GD}			≤ 10 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
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.	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

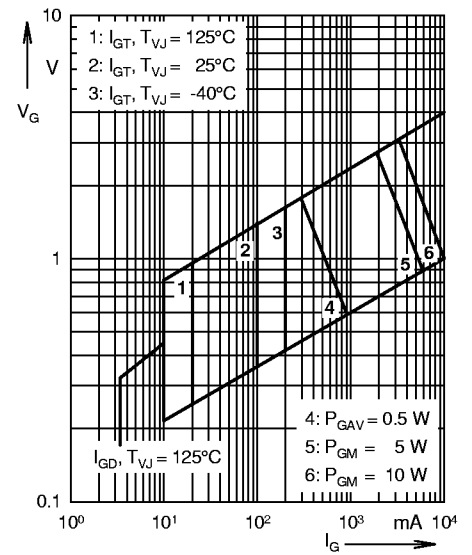
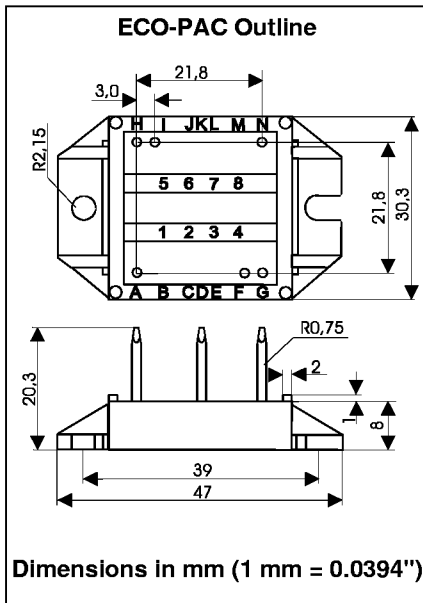


Fig. 1 Gate trigger characteristics

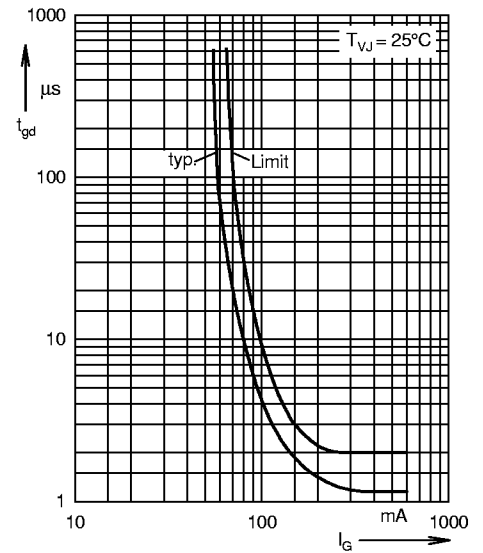


Fig. 2 Gate trigger delay time