

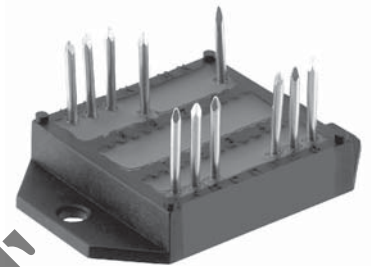
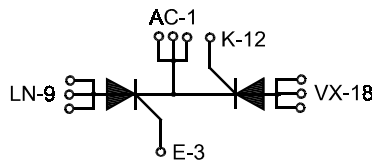
Thyristor Modules

ECO-PAC 2

$I_{TRMS} = 2 \times 180A$
 $I_{TAVM} = 2 \times 105A$
 $V_{RRM} = 800-1800 V$

Preliminary Data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Typ
900	800	VCK 105 - 08io7
1300	1200	VCK 105 - 12io7
1500	1400	VCK 105 - 14io7
1700	1600 </tr	



Symbol	Conditions	Maximum Ratings	Features
I_{TRMS}		180 A	<ul style="list-style-type: none"> Isolation voltage 3600 V~ Planar glass passivated chips Low forward voltage drop Leads suitable for PC board soldering
I_{TAVM}	$T_C = 85^\circ C; 180^\circ$ sine	105 A	
I_{TSM}	$T_{VJ} = 45^\circ C; V_R = 0 V;$ t = 10 ms (50 Hz), sine	2250 A	Applications <ul style="list-style-type: none"> DC motor control Light and temperature control Softstart AC motor controller Solid state switches
	t = 8.3 ms (60 Hz), sine	2400 A	
I^2dt	$T_{VJ} = 125^\circ C; V_R = 0 V;$ t = 10 ms (50 Hz), sine	2000 A	Advantages <ul style="list-style-type: none"> Easy to mount with two screws Space and weight savings Improved temperature and power cycling High power density Small and light weight
	t = 8.3 ms (60 Hz), sine	2150 A	
$(di/dt)_{cr}$	$T_{VJ} = 45^\circ C; V_R = 0 V;$ t = 10 ms (50 Hz), sine	25300 A ² s	
	t = 8.3 ms (60 Hz), sine	23900 A ² s	
$(dv/dt)_{cr}$	$T_{VJ} = 125^\circ C; V_{DR} = 2/3 V_{DRM}$	20000 A ² s	
	$R_{GK} = \infty$, method 1 (linear voltage rise)	19100 A ² s	
P_{GM}	$T_{VJ} = 125^\circ C;$ t _p = 30 ms	≤ 10 W	
	$I_T = I_{TAVM};$ t _p = 300 ms	≤ 5 W	
P_{GAVM}		0.5 W	
V_{RGM}		10 V	
T_{VJ}		-40 ... + 125 °C	
T_{VJM}		125 °C	
T_{stg}		-40 ... + 125 °C	
V_{ISOL}	50/60 Hz, RMS	t = 1 min	3000 V ~
	$I_{ISOL} \leq 1 mA$	t = 1 s	3600 V ~
M_d	Mounting torque (M4)		1.5 - 2.0 Nm
			14 - 18 lb.in.
Weight	typ.		26 g

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

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

Component		Characteristic Values		
Symbol	Conditions	min.	typ.	max.
I_D, I_R	$T_{VJ} = 125^\circ\text{C}; V_R = V_{RRM}; V_D = V_{DRM}$			5 mA
V_T	$I_T = 300 \text{ A}; T_{VJ} = 25^\circ\text{C}$			1.5 V
V_{TO}	For power-loss calculations only			0.8 V
r_T				2.4 mΩ
V_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			1.5 V 1.6 V
I_{GT}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			150 mA 200 mA
V_{GD}	$T_{VJ} = 125^\circ\text{C}; V_D = \frac{2}{3}V_{DRM}$			0.2 V
I_{GD}	$T_{VJ} = 125^\circ\text{C}; V_D = \frac{2}{3}V_{DRM}$			10 mA
I_L	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \text{ ms}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$			450 mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$			200 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = \frac{1}{2} V_{DRM}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$			2 μs
R_{thJC}	per Thyristor; DC per module			0.26 K/W 0.13 K/W
R_{thCH}	per Thyristor; DC per module	0,2 0,1		K/W K/W
d_s	Creeping distance on surface			11.2 mm
d_A	Creeping distance in air			5.0 mm
a	Max. allowable acceleration			50 m/s ²

