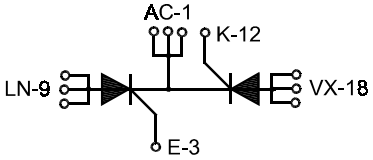
Thyristor Modules

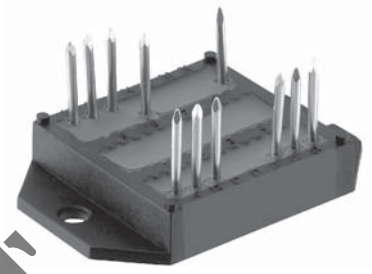
ECO-PAC 2

I_{TRMS} = 2x180A
I_{TAVM} = 2x105A
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	VCK 105 - 16io7
1900	1800	VCK 105 - 18io7





Symbol	Conditions		Maximum Ratings	
I_{TRMS}			180	A
I_{TAVM}	T_C = 85°C; 180° sine		105	A
I_{TSM}	T_{VJ} = 45°C; V_R = 0 V;	t = 10 ms (50 Hz), sine	2250	A
		t = 8.3 ms (60 Hz), sine	2400	A
	T_{VJ} = 125°C; V_R = 0 V;	t = 10 ms (50 Hz), sine	2000	A
		t = 8.3 ms (60 Hz), sine	2150	A
I^2dt	T_{VJ} = 45°C; V_R = 0 V;	t = 10 ms (50 Hz), sine	25300	A^2s
		t = 8.3 ms (60 Hz), sine	23900	A^2s
	T_{VJ} = 125°C; V_R = 0 V;	t = 10 ms (50 Hz), sine	20000	A^2s
		t = 8.3 ms (60 Hz), sine	19100	A^2s
$(di/dt)_{cr}$	T_{VJ} = 125°C; f = 50 Hz; t_P = 200 µs; V_D = $^2/_3V_{DRM}$;	repetitive, I_T = 250 A	150	A/µs
	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} = $^2/_3V_{DRM}$ R_{GK} = ∞, method 1 (linear voltage rise)		1000	V/µs
P_{GM}	T_{VJ} = 125°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} ≤ 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.

Features

- Isolation voltage 3600 V~
- Planar glass passivated chips
- Low forward voltage drop
- Leads suitable for PC board soldering

Applications

- DC motor control
- 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

Component

Symbol	Conditions	Characteristic Values min.	typ.	max.	
I_D, I_R	T_{VJ} = 125°C; $V_R = V_{RRM}$; $V_D = V_{DRM}$			5	mA
V_T	I_T = 300 A; T_{VJ} = 25°C			1.5	V
V_{TO}	For power-loss calculations only			0.8	V
r_T				2.4	mΩ
V_{GT}	V_D = 6 V; T_{VJ} = 25°C			1.5	V
	T_{VJ} = -40°C			1.6	V
I_{GT}	V_D = 6 V; T_{VJ} = 25°C			150	mA
	T_{VJ} = -40°C			200	mA
V_{GD}	T_{VJ} = 125°C; $V_D = {}^2/_3 V_{DRM}$			0.2	V
I_{GD}	T_{VJ} = 125°C; $V_D = {}^2/_3 V_{DRM}$			10	mA
I_L	T_{VJ} = 25°C; t_P = 10 ms I_G = 0.45 A; di_G/dt = 0.45 A/µs			450	mA
I_H	T_{VJ} = 25°C; V_D = 6 V; $R_{GK} = \infty$			200	mA
t_{gd}	T_{VJ} = 25°C; V_D = ½ V_{DRM} I_G = 0.45 A; di_G/dt = 0.45 A/µs			2	µs
R_{thJC}	per Thyristor; DC			0.26	K/W
	per module			0.13	K/W
R_{thCH}	per Thyristor; DC		0,2		K/W
	per module		0,1		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

Dimensions in mm (1 mm = 0.0394")