

Thyristor Modules

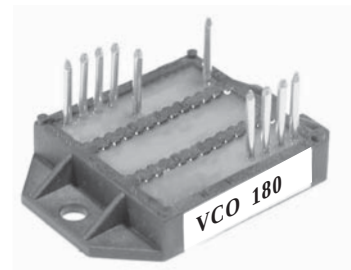
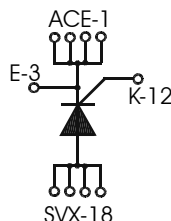
ECO-PAC 2

$$I_{TRMS} = 280A$$

$$I_{TAVM} = 180A$$

$$V_{RRM} = 800-1800 V$$

V_{RSM}	V_{RRM}	
V_{DSM}	V_{DRM}	Typ
V	V	
900	800	VCO 180 - 08io7
1300	1200	VCO 180 - 12io7
1500	1400	VCO 180 - 14io7
1700	1600	VCO 180 - 16io7
1900	1800	VCO 180 - 18io7



Symbol	Conditions	Maximum Ratings	
I_{TRMS}		280	A
I_{TAVM}	$T_C = 90^\circ C; T_{VJ} = 130^\circ C; 180^\circ \text{ sine}$	180	A
I_{TSM}	$T_{VJ} = 45^\circ C; V_R = 0 V; t = 10 \text{ ms (50 Hz), sine}$	4500	A
	$t = 8.3 \text{ ms (60 Hz), sine}$	4900	A
	$T_{VJ} = 125^\circ C; V_R = 0 V; t = 10 \text{ ms (50 Hz), sine}$	3800	A
	$t = 8.3 \text{ ms (60 Hz), sine}$	4200	A
I^2dt	$T_{VJ} = 45^\circ C; V_R = 0 V; t = 10 \text{ ms (50 Hz), sine}$	101000	A ² s
	$t = 8.3 \text{ ms (60 Hz), sine}$	99500	A ² s
	$T_{VJ} = 125^\circ C; V_R = 0 V; t = 10 \text{ ms (50 Hz), sine}$	72000	A ² s
	$t = 8.3 \text{ ms (60 Hz), sine}$	73000	A ² s
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ C; f = 50 \text{ Hz}; t_p = 200 \mu s; V_D = \frac{2}{3}V_{DRM}; I_G = 0.5 A$	repetitive, $I_T = 250 A$	150 A/ μs
		non repetitive, $I_T = I_{TAVM}$	500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = 125^\circ C; V_{DR} = \frac{2}{3}V_{DRM}; R_{GK} = \infty, \text{ method 1 (linear voltage rise)}$	1000	V/ μs
P_{GM}	$T_{VJ} = 125^\circ C; t_p = 30 \text{ ms}$	≤ 10	W
	$I_T = I_{TAVM}; t_p = 300 \text{ ms}$	≤ 5	W
P_{GAVM}		0.5	W
V_{RGM}		10	V
T_{VJ}		-40 ... +130	$^\circ C$
T_{VJM}	for 10 sec	150	$^\circ C$
T_{stg}		-40 ... +125	$^\circ C$
V_{ISOL}	50/60 Hz, RMS	$t = 1 \text{ min}$	3000 V ~
	$I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ s}$	3600 V ~
M_d	Mounting torque (M4)	1.5 - 2.0	Nm
		14 - 18	lb.in.
Weight	typ.	24	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	$T_{VJ} = 125^\circ\text{C}; V_R = V_{RRM}; V_D = V_{DRM}$			10 mA
V_T	$I_T = 200 \text{ A}; T_{VJ} = 25^\circ\text{C}$			1.1 V
V_{TO}	For power-loss calculations only			0.75 V
r_T				1.23 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}	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = -40^\circ\text{C}$			300 mA 400 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	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.5 \text{ A}; di_G/dt = 0.5 \text{ A}/\mu\text{s}$			450 mA
I_H	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$			200 mA
t_{gd}	$T_{VJ} = 25^\circ\text{C}; V_D = \frac{1}{2} V_{DRM}$ $I_G = 0.5 \text{ A}; di_G/dt = 0.5 \text{ A}/\mu\text{s}$			2 μs
R_{thJC}	per Thyristor; DC			0.17 K/W
R_{thJH}	per Thyristor; DC; typ.	0,23		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")

