

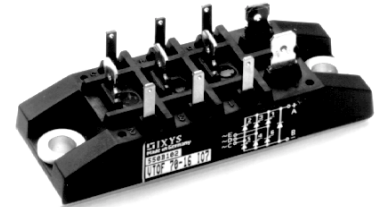
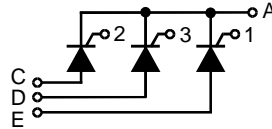
# Three Thyristor Module

$$I_{FAV} = 3 \times 28 \text{ A}$$

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

Preliminary data

$V_{RSM}$	$V_{RRM}$	Type
$V_{DSM}$	$V_{DRM}$	
V	V	
800	800	VYK 70-08io7
1200	1200	VYK 70-12io7
1400	1400	VYK 70-14io7
1600	1600	VYK 70-16io7



Symbol	Test Conditions	Maximum Ratings	
$I_{FAVM}$	$T_C = 85^\circ\text{C}$ , 50 - 400 Hz (per phase)	28	A
$I_{FRMS}$	$T_C = 85^\circ\text{C}$ , 50 - 400 Hz (per phase)	43	A
$I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	t = 10 ms (50 Hz), sine	550 A
		t = 8.3 ms (60 Hz), sine	600 A
$\int i^2 dt$	$T_{VJ} = T_{VJM}$ ; $V_R = 0$	t = 10 ms (50 Hz), sine	500 A
		t = 8.3 ms (60 Hz), sine	550 A
$(di/dt)_{cr}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	t = 10 ms (50 Hz), sine	1520 A <sup>2</sup> s
		t = 8.3 ms (60 Hz), sine	1520 A <sup>2</sup> s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $f = 50 \text{ Hz}$ , $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.45 \text{ A}$ $di_G/dt = 0.45 \text{ A}/\mu\text{s}$	repetitive, $I_T = 25 \text{ A}$	150 A/ $\mu\text{s}$
		non repetitive, $I_T = I_{TAVM}$	500 A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $R_{GK} = \infty$ ; method 1 (linear voltage rise)	$V_{DR} = 2/3 V_{DRM}$	1000 V/ $\mu\text{s}$
$P_{GM}$	$T_{VJ} = T_{VJM}$	$t_p = 30 \mu\text{s}$	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...+125	$^\circ\text{C}$
$T_{VJM}$		125	$^\circ\text{C}$
$T_{stg}$		-40...+125	$^\circ\text{C}$
$V_{ISOL}$	50/60 Hz, RMS	t = 1 min	2500 V~
	$I_{ISOL} \leq 1 \text{ mA}$	t = 1 s	3000 V~
$M_d$	Mounting torque (M5) (10-32 UNF)	5 $\pm$ 15 %	Nm
		44 $\pm$ 15 %	lb.in.
Weight	typ.	110	g

## Features

- Package with metal base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- UL applied
- 1/4" fast-on power terminals

## Applications

- Switching and control of three phase AC circuits
- Softstart AC motor controller
- Solid state switches
- Light and temperature control

## Advantages

- Easy to mount with two screws
- Space and weight savings
- Improved temperature and power cycling

Data according to IEC 60747 refer to a single diode/thyristor unless otherwise stated  
IXYS reserves the right to change limits, test conditions and dimensions.

Symbol	Test Conditions	Characteristic Values	
$I_D, I_R$	$T_{VJ} = T_{VJM}; V_R = V_{RRM}; V_D = V_{DRM}$	$\leq$	5 mA
$V_T$	$I_T = 45 \text{ A}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.45 V
$V_{T0}$	For power-loss calculations only ( $T_{VJ} = 125^\circ\text{C}$ )		0.85 V
$r_T$			11 m $\Omega$
$V_{GT}$	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	1.5 V
	$T_{VJ} = -40^\circ\text{C}$	$\leq$	1.6 V
$I_{GT}$	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	100 mA
	$T_{VJ} = -40^\circ\text{C}$	$\leq$	200 mA
$V_{GD}$	$T_{VJ} = T_{VJM}; V_D = 2/3 V_{DRM}$	$\leq$	0.2 V
$I_{GD}$		$\leq$	5 mA
$I_L$	$T_{VJ} = 25^\circ\text{C}; t_p = 10 \mu\text{s}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$	$\leq$	450 mA
$I_H$	$T_{VJ} = 25^\circ\text{C}; V_D = 6 \text{ V}; R_{GK} = \infty$	$\leq$	200 mA
$t_{gd}$	$T_{VJ} = 25^\circ\text{C}; V_D = 1/2 V_{DRM}$ $I_G = 0.45 \text{ A}; di_G/dt = 0.45 \text{ A}/\mu\text{s}$	$\leq$	2 $\mu\text{s}$
$t_q$	$T_{VJ} = T_{VJM}; I_T = 20 \text{ A}, t_p = 200 \mu\text{s}; di/dt = -10 \text{ A}/\mu\text{s}$ $V_R = 100 \text{ V}; dv/dt = 15 \text{ V}/\mu\text{s}; V_D = 2/3 V_{DRM}$	typ.	150 $\mu\text{s}$
$R_{thJC}$	per thyristor; sine 180°el		0.9 K/W
	per module		0.15 K/W
$R_{thJH}$	per thyristor; sine 180°el		1.1 K/W
	per module		0.183 K/W
$d_s$	Creeping distance on surface		16.1 mm
$d_A$	Creepage distance in air		6.0 mm
$a$	Max. allowable acceleration		50 m/s <sup>2</sup>

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