

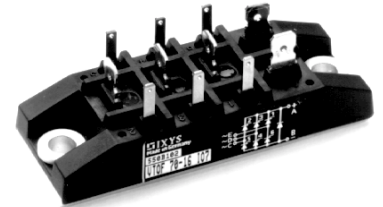
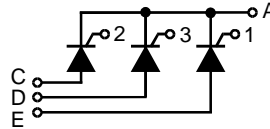
Three Thyristor Module

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

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

Preliminary data

V_{RSM} V_{DSM} V	V_{RRM} V_{DRM} V	Type
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
	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz), sine 500 A t = 8.3 ms (60 Hz), sine 550 A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	t = 10 ms (50 Hz), sine 1520 A ² s t = 8.3 ms (60 Hz), sine 1520 A ² s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	t = 10 ms (50 Hz), sine 1250 A ² s t = 8.3 ms (60 Hz), sine 1250 A ² s
$(di/dt)_{cr}$	$T_{VJ} = T_{VJM}$ f = 50 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/ μs
	$T_{VJ} = T_{VJM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	non repetitive, $I_T = I_{TAVM}$ 500 A/ μs
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ $R_{GK} = \infty$; method 1 (linear voltage rise)	1000 V/ μs
P_{GM}	$T_{VJ} = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30 \mu\text{s}$ 10 W $t_p = 300 \mu\text{s}$ 5 W
		0.5 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 2500 V~ t = 1 s 3000 V~
	$I_{ISOL} \leq 1 \text{ mA}$	
M_d	Mounting torque (M5) (10-32 UNF)	5±15 % Nm
		44±15 % lb.in.
Weight	typ.	110 g

Features

- Package with metal base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- UL applied
- ¼" 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 Ω
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 μs
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 μs
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 ²

Dimensions in mm (1 mm = 0.0394")
