

IXYS

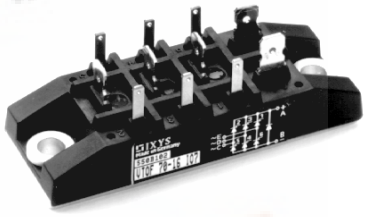
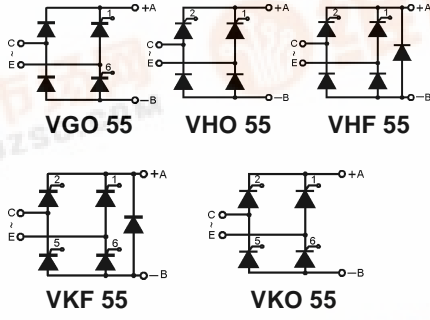
VHF 55 VHO 55
VKO 55 VKF 55 VGO 55

Single Phase Rectifier Bridge

I_{dAV} = 53 A
V_{RRM} = 800-1600 V

Preliminary data

V _{RSM} V _{DSM} V	V _{RRM} V _{DRM} V	Type
800	800	xxx 55-08io7
1200	1200	xxx 55-12io7
1400	1400	xxx 55-14io7
1600	1600	xxx 55-16io7
xxx = type		



Symbol	Test Conditions	Maximum Ratings
I _{dAV} ①	T _K = 85°C, module	53 A
I _{dAVM} ①	module	53 A
I _{FRMS} , I _{TRMS}	per leg	41 A
I _{FSM} , I _{TSM}	T _{VJ} = 45°C; V _R = 0 V	t = 10 ms (50 Hz), sine: 550 A t = 8.3 ms (60 Hz), sine: 600 A
	T _{VJ} = T _{VJM} ; V _R = 0 V	t = 10 ms (50 Hz), sine: 500 A t = 8.3 ms (60 Hz), sine: 550 A
I ² t	T _{VJ} = 45°C; V _R = 0 V	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 V	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} = 125°C; f = 50 Hz, t _p = 200 μs; V _D = 2/3 V _{DRM} ; I _G = 0.3 A; di _G /dt = 0.3 A/μs	repetitive, I _T = 50 A: 150 A/μs non repetitive, I _T = 1/2 • I _{dAV} : 500 A/μs
(dv/dt) _{cr}	T _{VJ} = T _{VJM} ; V _{DR} = 2/3 V _{DRM} ; R _{GK} = ∞; method 1 (linear voltage rise)	1000 V/μs
V _{RGM}		10 V
P _{GM}	T _{VJ} = T _{VJM} ; I _T = I _{TAVM}	t _p = 30 μs: ≤ 10 W t _p = 500 μs: ≤ 5 W t _p = 10 ms: ≤ 1 W
P _{GAVM}		0.5 W
T _{VJ}		-40...+125 °C
T _{VJM}		125 °C
T _{stg}		-40...+125 °C
V _{ISOL}	50/60 Hz, RMS; I _{ISOL} ≤ 1 mA	t = 1 min: 2500 V~ t = 1 s: 3000 V~
M _d	Mounting torque	(M5): 5 ± 15 % Nm (10-32 UNF): 44 ± 15 % lb.in.
Weight		110 g

Features

- Package with copper base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- 1/4" fast-on power terminals

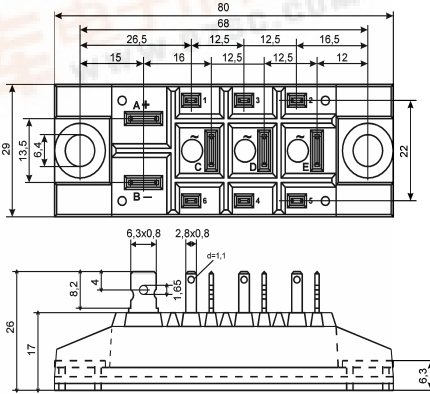
Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

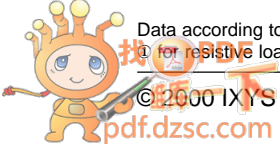
Advantages

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

Dimensions in mm (1 mm = 0.0394")



Data according to IEC 60747 refer to a single diode/thyristor unless otherwise stated for resistive load at bridge output. 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	$I_T = 80 \text{ A}; T_{VJ} = 25^\circ\text{C}$	\leq	1.64 V
V_{T0}	For power-loss calculations only		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.	250 μs
R_{thJC}	per thyristor / Diode; DC		0.9 K/W
	per module		0.18 K/W
R_{thJK}	per thyristor / Diode; DC		1.1 K/W
	per module		0.22 K/W
d_s	Creeping distance on surface		16.1 mm
d_A	Creepage distance in air		7.1 mm
a	Max. allowable acceleration		50 m/s ²