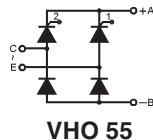


# Single Phase Rectifier Bridge

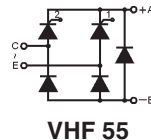
**$I_{dAV} = 53 \text{ A}$**   
 **$V_{RRM} = 800-1600 \text{ V}$**

Preliminary data

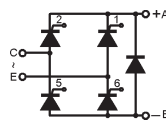
$V_{RSM}$ $V_{DSM}$ V	$V_{RRM}$ $V_{DRM}$ V	Type
800	800	xxx 55-08io7
1200	1200	xxx 55-12io7
1400	1400	xxx 55-14io7
1600	1600	xxx 55-16io7
xxx = type		



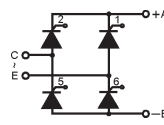
**VHO 55**



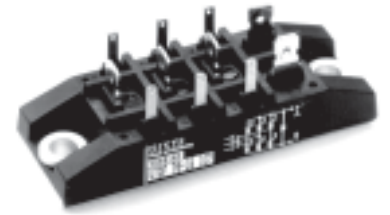
**VHF 55**



**VKF 55**



**VKO 55**



Symbol	Test Conditions	Maximum Ratings
$I_{dAV}$ ①	$T_K = 85^\circ\text{C}$ , module	53 A
$I_{dAVM}$ ①	module	53 A
$I_{FRMS}$ , $I_{TRMS}$	per leg	41 A
$I_{FSM}$ , $I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 550 A $t = 8.3 \text{ ms}$ (60 Hz), sine 600 A
	$T_{VJ} = T_{VJM}$ $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 500 A $t = 8.3 \text{ ms}$ (60 Hz), sine 550 A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 1520 A <sup>2</sup> s $t = 8.3 \text{ ms}$ (60 Hz), sine 1520 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ $V_R = 0 \text{ V}$	$t = 10 \text{ ms}$ (50 Hz), sine 1250 A <sup>2</sup> s $t = 8.3 \text{ ms}$ (60 Hz), sine 1250 A <sup>2</sup> s
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$ $f = 50 \text{ Hz}$ , $t_p = 200 \mu\text{s}$ $V_D = 2/3 V_{DRM}$ $I_G = 0.3 \text{ A}$ , $di_G/dt = 0.3 \text{ A}/\mu\text{s}$	repetitive, $I_T = 50 \text{ A}$ 150 A/ $\mu\text{s}$
		non repetitive, $I_T = 1/2 \cdot I_{dAV}$ 500 A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $V_{DR} = 2/3 V_{DRM}$ $R_{GK} = \infty$ ; method 1 (linear voltage rise)	1000 V/ $\mu\text{s}$
$V_{RGM}$		10 V
$P_{GM}$	$T_{VJ} = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30 \mu\text{s}$ $\leq 10 \text{ W}$
		$t_p = 500 \mu\text{s}$ $\leq 5 \text{ W}$
		$t_p = 10 \text{ ms}$ $\leq 1 \text{ W}$
$P_{GAVM}$		0.5 W
$T_{VJ}$		-40...+125 °C
$T_{VJM}$		125 °C
$T_{stg}$		-40...+125 °C
$V_{ISOL}$	50/60 Hz, RMS	$t = 1 \text{ min}$ 2500 V~
	$I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ s}$ 3000 V~
$M_d$	Mounting torque (M5) (10-32 UNF)	5 ± 15 % Nm
		44 ± 15 % lb.in.
<b>Weight</b>		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

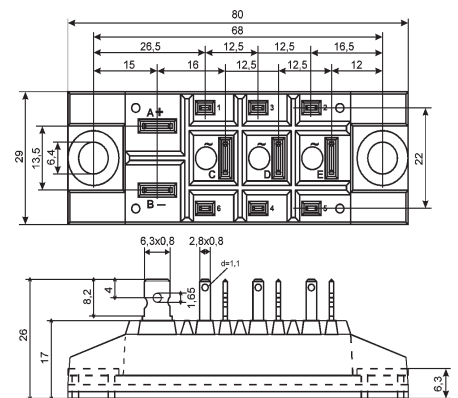
### Applications

- 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  
 ① for resistive load at bridge output.

IXYS reserves the right to change limits, test conditions and dimensions.

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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 mΩ
$V_{GT}$	$V_D = 6 \text{ V}; T_{VJ} = 25^\circ\text{C}$	$\leq$	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 <sup>2</sup>