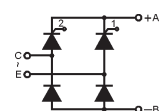


Single Phase Rectifier Bridge

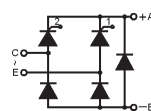
$$I_{dAV} = 53 \text{ A}$$
$$V_{\text{BBM}} = 800\text{-}1600 \text{ V}$$

Preliminary data

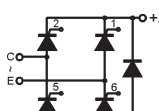
V_{RSM}	V_{RRM}	Type
V_{DSM}	V_{DRM}	
V	V	
800	800	
1200	1200	xxx 55-08io7
1400	1400	xxx 55-12io7
1600	1400	xxx 55-14io7
1600	1600	xxx 55-16io7
		xxx = type



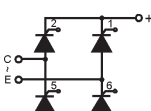
VHO 55



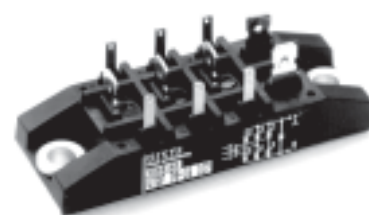
VHF 55



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}	$T_{VJ} = 45^{\circ}\text{C}$;	$t = 10\text{ ms}$ (50 Hz), sine	550	A
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$ (60 Hz), sine	600	A
	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (50 Hz), sine	500	A
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$ (60 Hz), sine	550	A
I^2t	$T_{VJ} = 45^{\circ}\text{C}$	$t = 10\text{ ms}$ (50 Hz), sine	1520	A ² s
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$ (60 Hz), sine	1520	A ² s
	$T_{VJ} = T_{VJM}$	$t = 10\text{ ms}$ (50 Hz), sine	1250	A ² s
	$V_R = 0\text{ V}$	$t = 8.3\text{ ms}$ (60 Hz), sine	1250	A ² s
$(di/dt)_{cr}$	$T_{VJ} = 125^{\circ}\text{C}$	repetitive, $I_T = 50\text{ A}$	150	A/ μs
	$f = 50\text{ Hz}$, $t_p = 200\text{ }\mu\text{s}$			
	$V_D = 2/3 V_{DRM}$	non repetitive, $I_T = 1/2 \cdot I_{dAV}$	500	A/ μs
	$I_G = 0.3\text{ A}$, $di_G/dt = 0.3\text{ A}/\mu\text{s}$			
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$; $V_{DR} = 2/3 V_{DRM}$		1000	V/ μs
	$R_{GK} = \infty$; method 1 (linear voltage rise)			
V_{RGM}			10	V
P_{GM}	$T_{VJ} = T_{VJM}$	$t_p = 30\text{ }\mu\text{s}$	≤ 10	W
	$I_T = I_{TAVM}$	$t_p = 500\text{ }\mu\text{s}$	≤ 5	W
		$t_p = 10\text{ ms}$	≤ 1	W
P_{GAVM}			0.5	W
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	$t = 1\text{ min}$	2500	V~
	$I_{ISOL} \leq 1\text{ mA}$	$t = 1\text{ s}$	3000	V~
M_d	Mounting torque	(M5)	$5 \pm 15\text{ }\%$	Nm
		(10-32 UNF)	$44 \pm 15\text{ }\%$	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

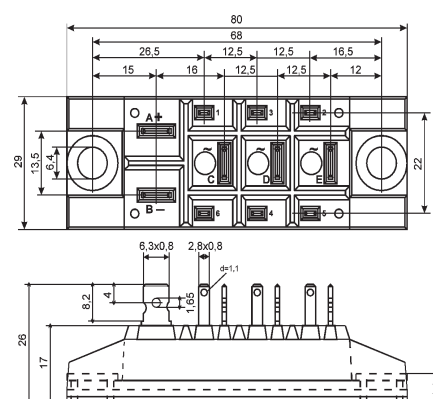
Applications

- 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
① for resistive load at bridge output.

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

20070731a

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

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