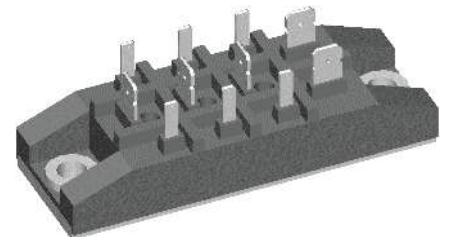
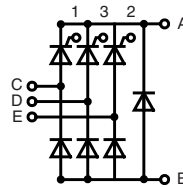


# Three Phase Rectifier Bridge

$$I_{dAV} = 70 \text{ A}$$

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

$V_{RSM}$	$V_{RRM}$	Type
$V_{DSM}$	$V_{DRM}$	
$V$	$V$	
1700	1600	VVZF 70-16io7



Symbol	Conditions	Maximum Ratings
$I_{dAV}$ ①	$T_C = 85^\circ\text{C}$ , module	70 A
$I_{dAVM}$ ①	module	70 A
$I_{FRMS}$ , $I_{TRMS}$	per leg	36 A
$I_{FSM}$ , $I_{TSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)	550 A
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	600 A
	$T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)	500 A
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	550 A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)	1520 A <sup>2</sup> s
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	1520 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)	1250 A <sup>2</sup> s
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	1250 A <sup>2</sup> s
$(di/dt)_{cr}$	$T_{VJ} = 125^\circ\text{C}$ $f = 50 \text{ Hz}$ ; $t_p = 200 \mu\text{s}$	repetitive; $I_T = 50 \text{ A}$ 150 A/ $\mu\text{s}$
	$V_D = \frac{2}{3} V_{DRM}$ $I_G = 0.3 \text{ A}$ $di_G/dt = 0.3 \text{ A}/\mu\text{s}$	non repetitive; $I_T = \frac{1}{2} I_{dAV}$ 500 A/ $\mu\text{s}$
$(dv/dt)_{cr}$	$T_{VJ} = T_{VJM}$ ; $V_D = \frac{2}{3} V_{DRM}$ $R_{GK} = \infty$ , method 1 (linear voltage rise)	1000 V/ $\mu\text{s}$
$V_{RGM}$		10 V
$P_{GM}$	$T_{VJ} = T_{VJM}$ $I_T = I_{TAVM}$	$t_p = 30 \mu\text{s}$ 10 W
		$t_p = 500 \mu\text{s}$ 5 W
		$t_p = 10 \mu\text{s}$ 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 $t = 1 \text{ min}$	2500 V~
	$I_{ISOL} \leq 1 \text{ mA}$ $t = 1 \text{ s}$	3000 V~
$M_d$	Mounting torque (M5)	$5 \pm 15\%$ Nm
	(10-32 UNF)	$44 \pm 15\%$ lb.in.
Weight	Typ.	100 g

## Features

- Package with copper base plate
- Isolation voltage 3000 V~
- Planar passivated chips
- Low forward voltage drop
- ¼" 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 screw
- Space and weight savings
- Improved temperature & power cycling capability
- Small and light weight

Data according to IEC 60747 and refer to a single diode unless otherwise stated.

## Disclaimer Notice

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

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Symbol	Conditions	Characteristic Values	
$I_D; I_R$	$V_R = V_{RRM}; V_D = V_{DRM}$	$T_{VJ} = T_{VJM}$	$\leq 5$ mA
$V_T$	$I_T = 80$ 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 $\Omega$
$V_{GT}$	$V_D = 6$ V	$T_{VJ} = 25^\circ\text{C}$	$\leq 1.5$ V
		$T_{VJ} = -40^\circ\text{C}$	$\leq 1.6$ V
$I_{GT}$	$V_D = 6$ V	$T_{VJ} = 25^\circ\text{C}$	$\leq 100$ mA
		$T_{VJ} = -40^\circ\text{C}$	$\leq 200$ mA
$V_{GD}$	$V_D = \frac{2}{3}V_{DRM}$	$T_{VJ} = T_{VJM}$	$\leq 0.2$ V
$I_{GD}$			$\leq 5$ mA
$I_L$	$t_p = 10$ $\mu\text{s}$ $I_G = 0.45$ A; $di_G/dt = 0.45$ A/ $\mu\text{s}$	$T_{VJ} = 25^\circ\text{C}$	$\leq 450$ mA
$I_H$	$V_D = 6$ V; $R_{GK} = \infty$	$T_{VJ} = 25^\circ\text{C}$	$\leq 200$ mA
$t_{gd}$	$V_D = \frac{1}{2}V_{DRM}$ $I_G = 0.45$ A; $di_G/dt = 0.45$ A/ $\mu\text{s}$	$T_{VJ} = 25^\circ\text{C}$	$\leq 2$ $\mu\text{s}$
$t_q$	$I_T = 20$ A; $t_p = 200$ $\mu\text{s}$ $V_R = 100$ V; $di/dt = -10$ A/ $\mu\text{s}$ $dv/dt = -15$ V/ $\mu\text{s}$ ; $V_D = \frac{2}{3}V_{DRM}$	$T_{VJ} = 25^\circ\text{C}$	$\leq 250$ $\mu\text{s}$
$R_{thJC}$	per thyristor / diode; DC		0.9 K/W
	per module		0.15 K/W
$R_{thJH}$	per thyristor / diode; DC		1.1 K/W
	per module		0.157 K/W
$d_s$	Creeping distance on surface		16.1 mm
$d_A$	Creepage distance in air		7.5 mm
$a$	Max. allowable acceleration		50 m/s <sup>2</sup>

