

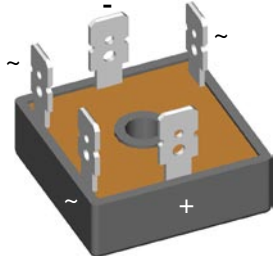
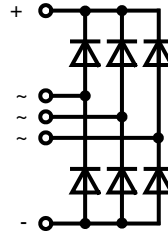
# Three Phase Rectifier Bridge with Semi Fast Diodes

$$I_{dAV} = 18 \text{ A}$$

$$V_{RRM} = 1200-1600 \text{ V}$$

Preliminary data

$V_{RSM}$ $V_{DSM}$ V	$V_{RRM}$ $V_{DRM}$ V	Type
1200	1200	VUO 18-12DT8
1400	1600	VUO 18-14DT8
1600	1800	VUO 18-16DT8



Symbol	Conditions	Maximum Ratings
$I_{dAV}$	$T_C = 85^\circ\text{C}$ , module	14 A
$I_{dAVM}$	$T_C = 63^\circ\text{C}$ , module	18 A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)	300 A
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	330 A
	$T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)	270 A
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	300 A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ ; $t = 10 \text{ ms}$ (50 Hz)	450 A <sup>2</sup> s
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	460 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ ; $t = 10 \text{ ms}$ (50 Hz)	365 A <sup>2</sup> s
	$V_R = 0$ ; $t = 8.3 \text{ ms}$ (60 Hz)	380 A <sup>2</sup> s
$T_{VJ}$		-40...+150 °C
$T_{VJM}$		150 °C
$T_{stg}$		-40...+150 °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)	2 ±10% Nm
		18 ±10% lb.in.
Weight	Typ.	22 g

### Features

- Package with ¼" fast-on terminals
- Isolation voltage 3000 V~
- Planar passivated chips
- Blocking voltage up to 1600 V
- Low forward voltage drop
- UL registered E 72873

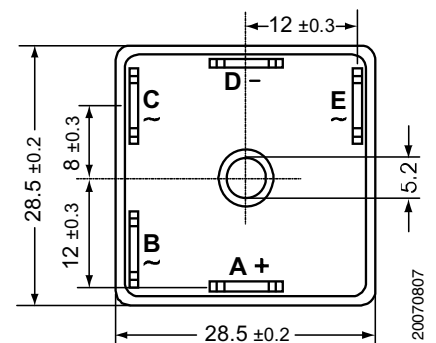
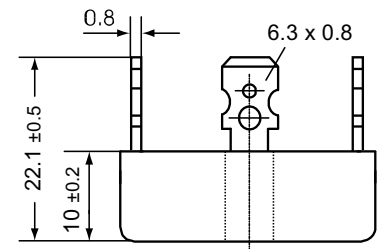
### Applications

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

### Advantages

- Easy to mount with one screw
- Space and weight savings
- Improved temperature & power cycling
- **Up to 10 dB lower EMI/RFI compared to standard rectifier**

### Dimensions in mm (1 mm = 0.0394")



Symbol	Conditions	Characteristic Values
$I_R$	$V_R = V_{RRM}$ $T_{VJ} = 25^\circ\text{C}$ $T_{VJ} = T_{VJM}$	0.3 mA
		5.0 mA
$V_F$	$I_F = 55 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$	1.85 V
$V_{T0}$	For power-loss calculations only	1.2 V
$r_t$		16 mΩ
$t_{rr}$	$I_C = 10 \text{ A}$ $T_{VJ} = 25^\circ\text{C}$ $-di/dt = 10 \text{ A}/\mu\text{s}$ , $V_R = \frac{1}{2} V_{RRM}$	1.5 μs
$R_{thJC}$	per diode; 120° el.	9.30 K/W
	per module	1.55 K/W
$R_{thCH}$	per diode; 120° el.	10.20 K/W
	per module	1.70 K/W
$d_s$	Creeping distance on surface	12.7 mm
$d_A$	Creepage distance in air	9.4 mm
$a$	Max. allowable acceleration	50 m/s <sup>2</sup>

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

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