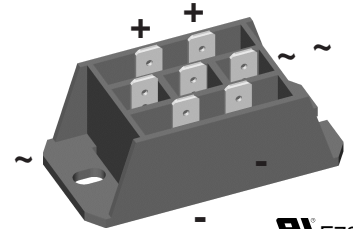
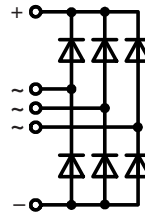


# Three Phase Rectifier Bridge

**$I_{dAV} = 37 \text{ A}$**   
 **$V_{RRM} = 800-1800 \text{ V}$**

$V_{RSM}$ V	$V_{RRM}$ V	Type
900	800	VUO 30-08NO3
1300	1200	VUO 30-12NO3
1500	1400	VUO 30-14NO3
1700	1600	VUO 30-16NO3
1900	1800	VUO 30-18NO3*

\* delivery time on request



E72873

Symbol	Conditions	Maximum Ratings	
$I_{dAV}$ ①	$T_C = 85^\circ\text{C}$ , module	37	A
$I_{dAVM}$ ①	module	50	A
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$ ; $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	300 A
		$t = 8.3 \text{ ms}$ (60 Hz), sine	330 A
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	270 A
		$t = 8.3 \text{ ms}$ (60 Hz), sine	290 A
$I^2t$	$T_{VJ} = 45^\circ\text{C}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	450 A <sup>2</sup> s
		$t = 8.3 \text{ ms}$ (60 Hz), sine	460 A <sup>2</sup> s
	$T_{VJ} = T_{VJM}$ $V_R = 0$	$t = 10 \text{ ms}$ (50 Hz), sine	365 A <sup>2</sup> s
		$t = 8.3 \text{ ms}$ (60 Hz), sine	355 A <sup>2</sup> s
$T_{VJ}$		-40...+125	°C
$T_{VJM}$		125	°C
$T_{stg}$		-40...+125	°C
$V_{ISOL}$	50/60 Hz, RMS $I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ min}$	3000 V~
		$t = 1 \text{ s}$	3600 V~
$M_d$	Mounting torque (M5) (10-32 UNF)		2-2.5 Nm
			18-22 lb.in.
Weight	typ.	50	g

## Features

- Package with DCB ceramic base plate
- Isolation voltage 3600 V~
- Planar passivated chips
- Blocking voltage up to 1800 V
- low forward voltage drop
- ¼" fast-on terminals
- UL registered E 72873

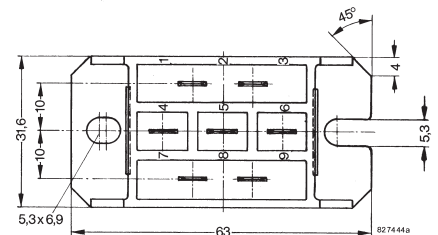
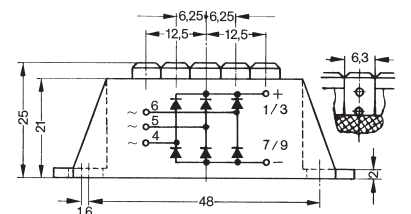
## Applications

- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Rectifier for DC motors field current

## Advantages

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

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



Symbol	Conditions	Characteristic Values	
$I_R$	$V_R = V_{RRM}$ ; $T_{VJ} = 25^\circ\text{C}$		0.3 mA
		$T_{VJ} = T_{VJM}$	5 mA
$V_F$	$I_F = 150 \text{ A}$ ; $T_{VJ} = 25^\circ\text{C}$		2.55 V
$V_{T0}$	For power-loss calculations only		0.9 V
$r_T$			11 mΩ
$R_{thJC}$	per diode, DC current		2.4 K/W
	per module		0.4 K/W
$R_{thJH}$	per diode, DC current		3.0 K/W
	per module		0.5 K/W
$d_S$	Creeping distance on surface	10	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.

① for resistive load at bridge output

**Use output terminals in parallel connection!**

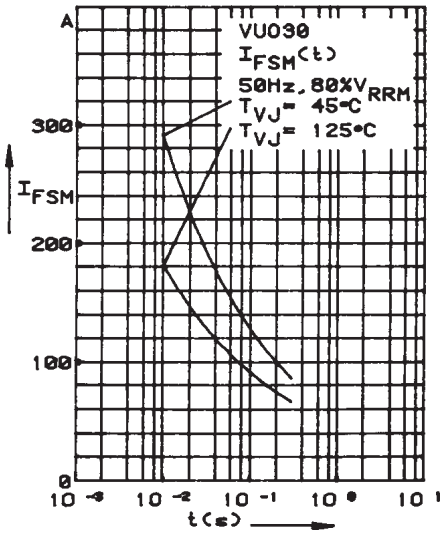


Fig. 1 Surge overload current  
 $I_{FSM}$ : Crest value,  $t$ : duration

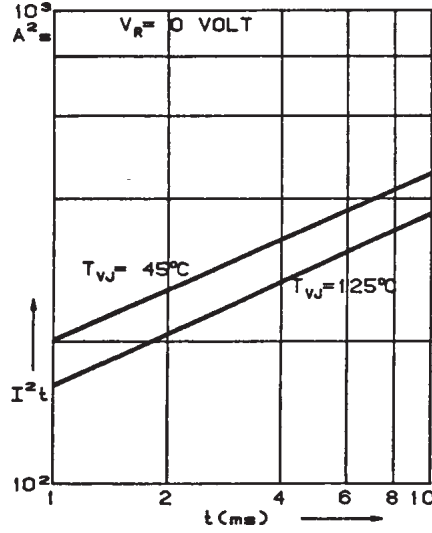


Fig. 2  $I^2t$  versus time (1-10 ms)

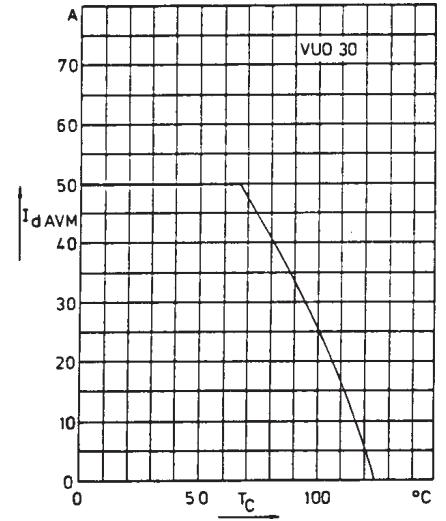


Fig. 3 Max. forward current at case temperature

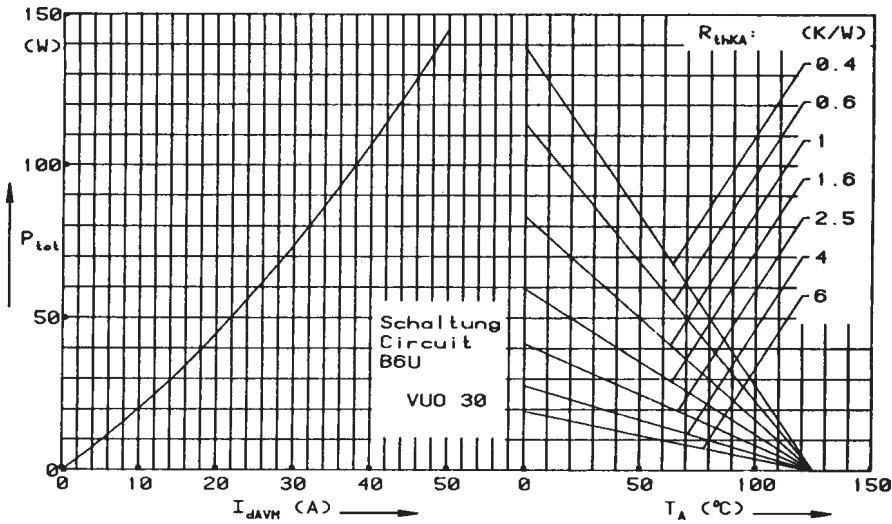


Fig. 4 Power dissipation versus forward current and ambient temperature

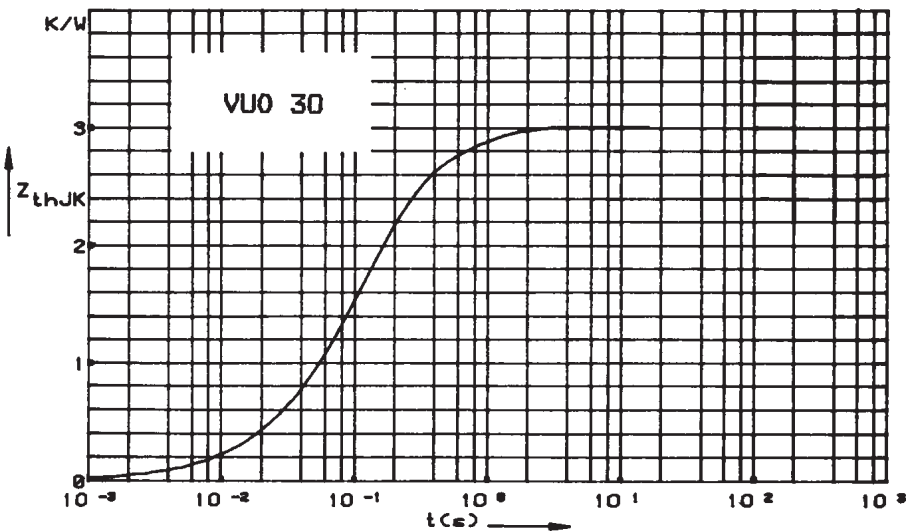


Fig. 5 Transient thermal impedance junction to heatsink per diode

Constants for  $Z_{thJK}$  calculation:

i	$R_{thi}$ (K/W)	$t_i$ (s)
1	0.489	0.0717
2	0.544	0.1241
3	1.376	0.1214