



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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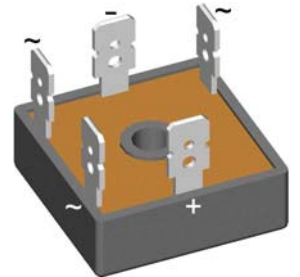
Standard Rectifier Module

3~ Rectifier	
V_{RRM}	= 1800 V
I_{DAV}	= 27 A
I_{FSM}	= 550 A

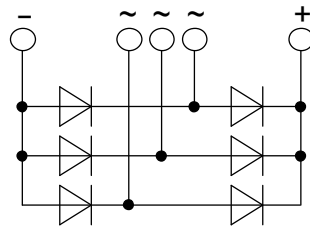
3~ Rectifier Bridge

Part number

VUO36-18NO8



E72873



Features / Advantages:

- Planar passivated chips
- Very low leakage current
- Very low forward voltage drop
- Improved thermal behaviour

Applications:

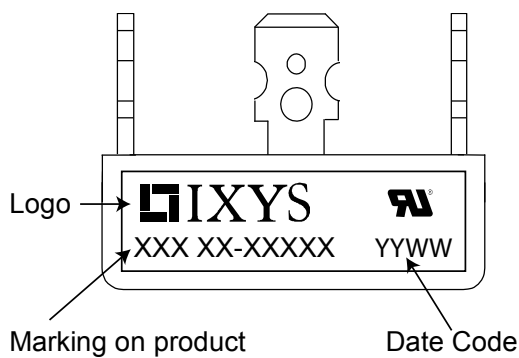
- Diode for main rectification
- For three phase bridge configurations
- Supplies for DC power equipment
- Input rectifiers for PWM inverter
- Battery DC power supplies
- Field supply for DC motors

Package: FO-B

- Industry standard outline
- RoHS compliant
- ¼" fast-on terminals
- Easy to mount with one screw

Rectifier				Ratings		
Symbol	Definition	Conditions	min.	typ.	max.	Unit
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}C$			1900	V
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}C$			1800	V
I_R	reverse current	$V_R = 1800 V$	$T_{VJ} = 25^{\circ}C$		40	μA
		$V_R = 1800 V$	$T_{VJ} = 150^{\circ}C$		1.5	mA
V_F	forward voltage drop	$I_F = 15 A$	$T_{VJ} = 25^{\circ}C$		1.04	V
		$I_F = 45 A$			1.23	V
		$I_F = 15 A$	$T_{VJ} = 125^{\circ}C$		0.93	V
		$I_F = 45 A$			1.18	V
I_{DAV}	bridge output current	$T_C = 85^{\circ}C$ rectangular $d = \frac{1}{3}$	$T_{VJ} = 150^{\circ}C$		27	A
V_{FO}	threshold voltage	} for power loss calculation only	$T_{VJ} = 150^{\circ}C$		0.76	V
r_F	slope resistance				9.1	m Ω
R_{thJC}	thermal resistance junction to case				7	K/W
R_{thCH}	thermal resistance case to heatsink			1		K/W
P_{tot}	total power dissipation		$T_C = 25^{\circ}C$		17	W
I_{FSM}	max. forward surge current	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 45^{\circ}C$		550	A
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		595	A
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 150^{\circ}C$		470	A
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		505	A
I^2t	value for fusing	$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 45^{\circ}C$		1.52	kA ² s
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		1.48	kA ² s
		$t = 10 \text{ ms}; (50 \text{ Hz}), \text{ sine}$	$T_{VJ} = 150^{\circ}C$		1.11	kA ² s
		$t = 8,3 \text{ ms}; (60 \text{ Hz}), \text{ sine}$	$V_R = 0 V$		1.06	kA ² s
C_J	junction capacitance	$V_R = 400 V; f = 1 \text{ MHz}$	$T_{VJ} = 25^{\circ}C$		18	pF

Package FO-B		Ratings				
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal			100	A
T_{stg}	storage temperature		-40		125	°C
T_{VJ}	virtual junction temperature		-40		150	°C
Weight				20		g
M_D	mounting torque		1.8		2.2	Nm
$d_{Spp/App}$	creepage distance on surface striking distance through air	terminal to terminal	9.0	7.0		mm
$d_{Spb/Apb}$		terminal to backside	10.0	10.0		mm
V_{ISOL}	isolation voltage	t = 1 second	3000			V
		t = 1 minute 50/60 Hz, RMS; $I_{ISOL} \leq 1$ mA	2500			V

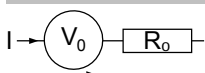


Ordering	Part Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO36-18NO8	VUO36-18NO8	Box	50	465186

Equivalent Circuits for Simulation

* on die level

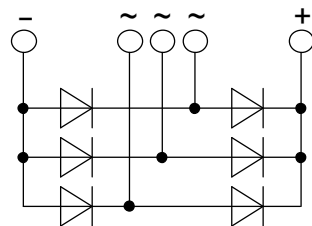
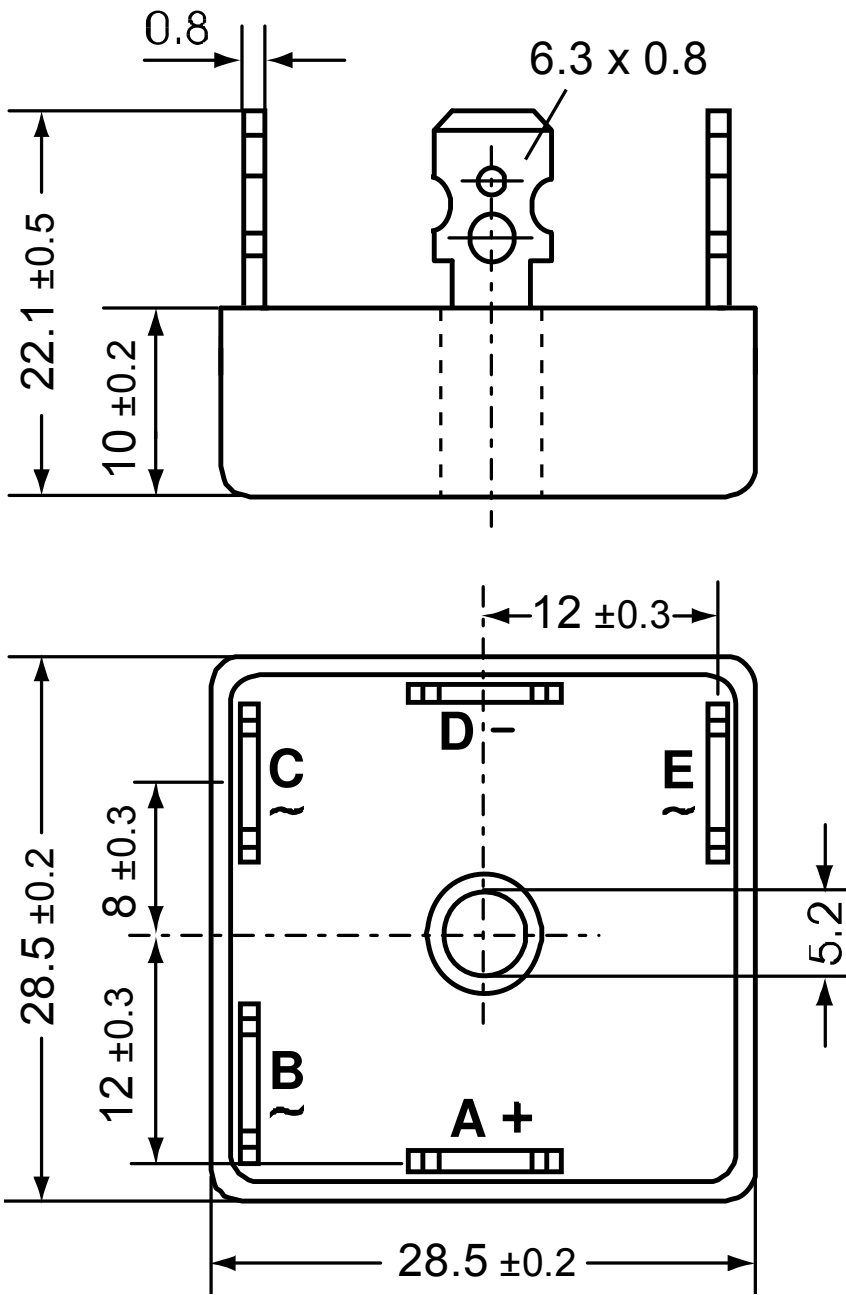
$T_{VJ} = 150^\circ\text{C}$



Rectifier

$V_{0\ max}$	threshold voltage	0.76	V
$R_{0\ max}$	slope resistance *	7.9	mΩ

Outlines FO-B



Rectifier

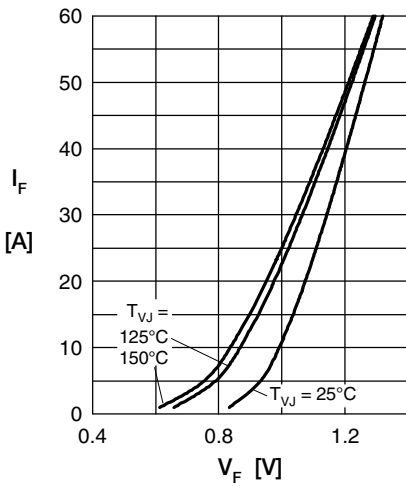


Fig. 1 Forward current vs. voltage drop per diode

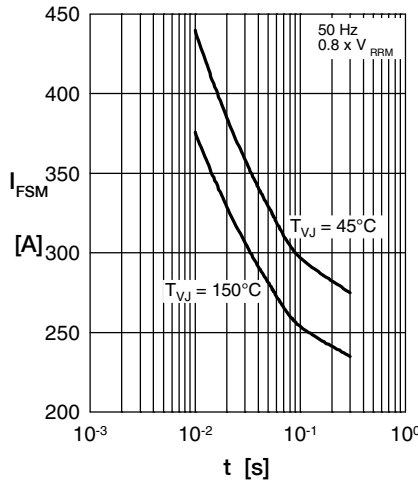


Fig. 2 Surge overload current vs. time per diode

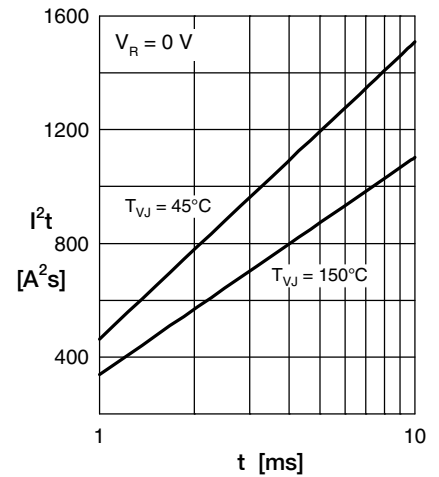


Fig. 3 I^2t vs. time per diode

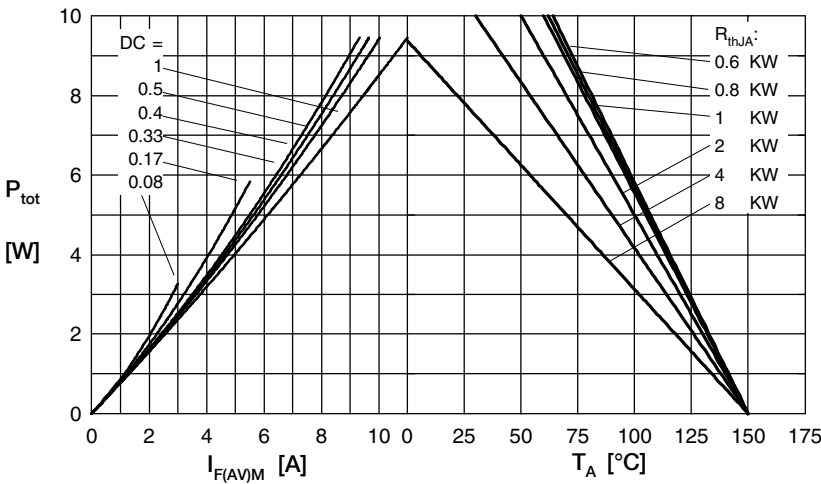


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

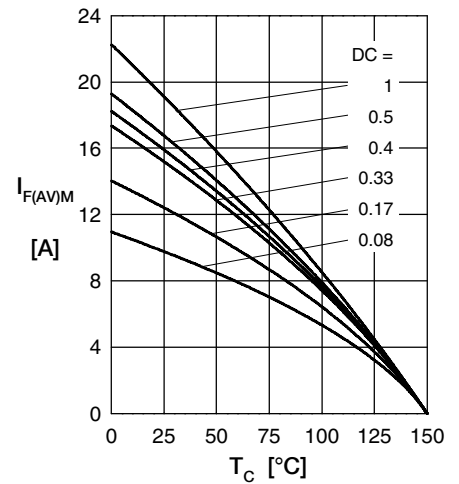


Fig. 5 Max. forward current vs. case temperature per diode

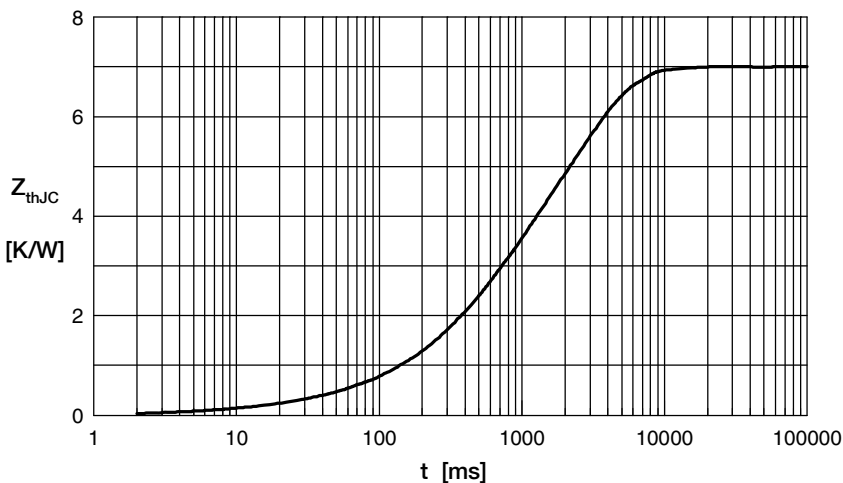


Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for Z_{thJC} calculation:

i	R_{th} (K/W)	t_i (s)
1	0.040	0.005
2	0.150	0.030
3	1.710	0.400
4	5.100	2.300