# imall

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!



## Contact us

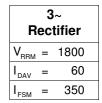
Tel: +86-755-8981 8866 Fax: +86-755-8427 6832 Email & Skype: info@chipsmall.com Web: www.chipsmall.com Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

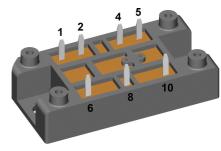


## **Standard Rectifier Module**

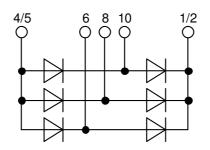
3~ Rectifier Bridge

Part number VUO52-18NO1





Backside: isolated **E**72873



## Features / Advantages:

- Package with DCB ceramic
- Improved temperature and power cycling
- Planar passivated chips
- Very low forward voltage drop
- · Very low leakage current

## **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: V1-A-Pack

- Isolation Voltage: 3600 V~
- Industry standard outline
- RoHS compliant
- Soldering pins for PCB mounting
- Height: 17 mm
- Base plate: DCB ceramic
- Reduced weight
- Advanced power cycling

#### Terms Conditions of usage:

The data contained in this product data sheet is exclusively intended for technically trained staff. The user will have to evaluate the suitability of the product for the intended application and the completeness of the product data with respect to his application. The specifications of our components may not be considered as an assurance of component characteristics. The information in the valid application- and assembly notes must be considered. Should you require product information in excess of the data given in this product data sheet or which concerns the specific application of your product, please contact the sales office, which is responsible for you. Due to technical requirements our product may contain dangerous substances. For information on the types in question please contact the sales office, which is responsible for you. Should you intend to use the product in aviation, in health or live endangering or life support applications, please notify. For any such application we urgently recommend

to perform joint risk and quality assessments;
the conclusion of quality agreements;

- to establish joint measures of an ongoing product survey, and that we may make delivery dependent on the realization of any such measures.

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

Data according to IEC 60747and per semiconductor unless otherwise specified

© 2015 IXYS all rights reserved

20151030d

VUO52-18NO1

# LIXYS

## VUO52-18NO1

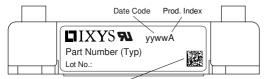
Rectifier					Rating	S	
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V <sub>RSM</sub>	max. non-repetitive reverse bloc	king voltage	$T_{VJ} = 25^{\circ}C$			1900	V
V <sub>RRM</sub>	max. repetitive reverse blocking	voltage	$T_{VJ} = 25^{\circ}C$			1800	V
I <sub>R</sub>	reverse current	$V_{R} = 1800 V$	$T_{VJ} = 25^{\circ}C$			40	μA
		$V_{R} = 1800 V$	$T_{vJ} = 150^{\circ}C$			1,5	mA
V <sub>F</sub>	forward voltage drop	I <sub>F</sub> = 20 A	$T_{VJ} = 25^{\circ}C$			1,13	V
		$I_{F} = 60 \text{ A}$				1,44	V
		$I_{F} = 20 \text{ A}$	T <sub>VJ</sub> = 125 °C			1,07	V
		$I_{F} = 60 \text{ A}$				1,50	V
DAV	bridge output current	T <sub>c</sub> = 110°C	T <sub>vJ</sub> = 150°C			60	Α
		rectangular $d = \frac{1}{3}$					
V <sub>F0</sub>	threshold voltage		T <sub>vj</sub> = 150°C			0,83	V
r <sub>F</sub>	slope resistance } for power	loss calculation only				11,5	mΩ
<b>R</b> <sub>thJC</sub>	thermal resistance junction to ca	ase				1,3	K/W
R <sub>thCH</sub>	thermal resistance case to heats	sink			0,3		K/W
P <sub>tot</sub>	total power dissipation		$T_c = 25^{\circ}C$			95	W
I <sub>FSM</sub>	max. forward surge current	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^{\circ}C$			350	A
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			380	Α
		t = 10 ms; (50 Hz), sine	$T_{vJ} = 150^{\circ}C$			300	Α
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			320	Α
l²t	value for fusing	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^{\circ}C$			615	A <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			600	A²s
		t = 10 ms; (50 Hz), sine	$T_{vJ} = 150 ^{\circ}\text{C}$			450	A <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine	$V_R = 0 V$			425	A²s
C	junction capacitance	V <sub>B</sub> = 400 V; f = 1 MHz	$T_{VJ} = 25^{\circ}C$		10		pF

20151030d

# LIXYS

## VUO52-18NO1

Package V1-A-Pack			1	Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
I <sub>RMS</sub>	RMS current	per terminal				100	А
T <sub>vj</sub>	virtual junction temperature			-40		150	°C
T <sub>op</sub>	operation temperature			-40		125	°C
T <sub>stg</sub>	storage temperature			-40		125	°C
Weight					37		g
MD	mounting torque			2		2,5	Nm
d <sub>Spp/App</sub>	creepage distance on surface   striking distance through air		terminal to terminal	6,0			mm
<b>d</b> <sub>Spb/Apb</sub>			terminal to backside	12,0			mm
V	isolation voltage	t = 1 second		3600			V
	t = 1 minute	50/60 Hz, RMS; liso∟ ≤ 1 mA	3000			V	



Data Matrix: Typ (1-19), DC+Prod.Index (20-25), FKT# (26-31) leer (33), lfd.# (33-36)

[	Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
	Standard	VUO52-18NO1	VUO52-18NO1	Blister	24	461199

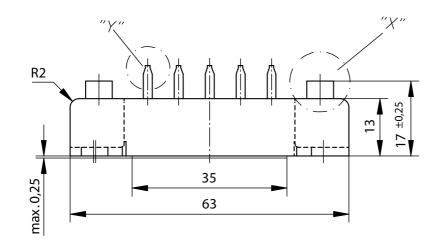
Similar Part	Package	Voltage class
VUO52-08NO1	V1-A-Pack	800
VUO52-12NO1	V1-A-Pack	1200
VUO52-14NO1	V1-A-Pack	1400
VUO52-16NO1	V1-A-Pack	1600
VUO52-20NO1	V1-A-Pack	2000
VUO52-22NO1	V1-A-Pack	2200
VUO34-16NO1	V1-A-Pack	1600
VUO34-18NO1	V1-A-Pack	1800

Equivalent Circuits for Simulation			* on die level	T <sub>vj</sub> = 150 °C
	)[R]-	Rectifier		
V <sub>0 max</sub>	threshold voltage	0,83		V
$\mathbf{R}_{0 \max}$	slope resistance *	10,2		mΩ

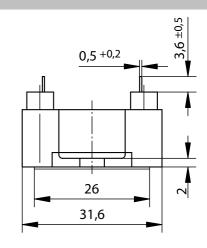
 $\ensuremath{\mathsf{IXYS}}$  reserves the right to change limits, conditions and dimensions.

## VUO52-18NO1

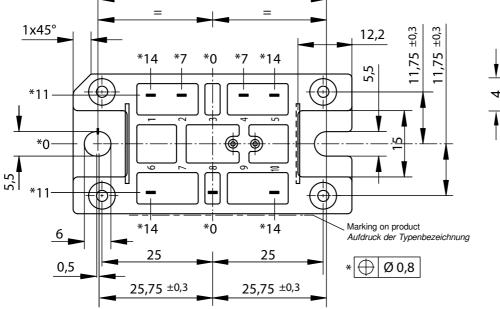
#### Outlines V1-A-Pack

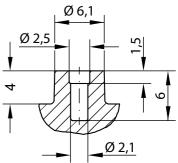


52 (see 1)



Detail "X" M 2:1





<u>Detail "Y</u>" M 5:1

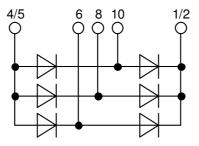
1 ±0,2

2 +0,2

#### Remarks / Bemerkungen:

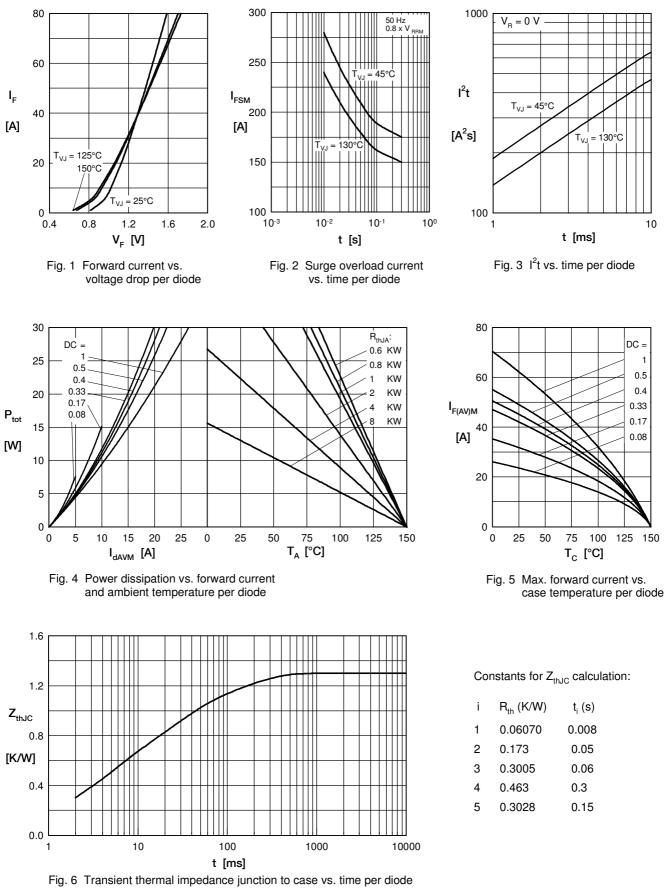
1. Nominal distance mounting screws on heat sink: 52 mm / Nennabstand Befestigungsschrauben auf Kühlkörper: 52 mm

- General tolerance / Allgemeintoleranz: DIN ISO 2768 -11-c
   Surface treatment of pins: tin plated (Sn) in hot dip / Oberflächenbehandlung der Pins: verzinnt (Sn) im Tauchbad



# LIXYS





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