

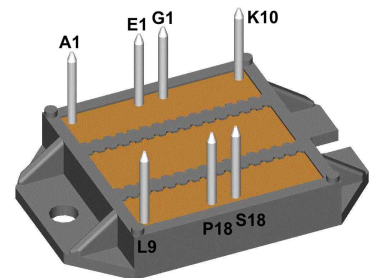
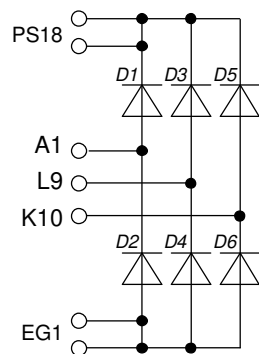
Phase out

Standard Rectifier Module

PHASE OUT

3~ Rectifier	
V_{RRM}	= 1400 V
I_{DAV}	= 125 A
I_{FSM}	= 1000 A

3~ Rectifier Bridge

Part number
VUO122-14NO7


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: ECO-PAC2

- Isolation Voltage: 3000 V~
- Industry standard outline
- RoHS compliant
- Soldering pins for PCB mounting
- Height: 9 mm
- Base plate: DCB ceramic
- Reduced weight
- Advanced power cycling

Recommended replacement: VUO122-16NO7

Terms and 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 your local sales office.

Due to technical requirements our product may contain dangerous substances. For information on the types in question please contact your local sales office.

Should you intend to use the product in aviation, in health or life 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;

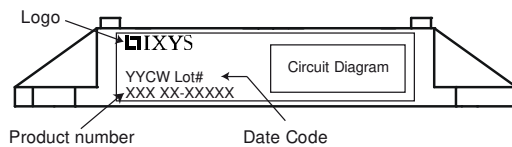
- to establish joint measures of an ongoing product survey, and that we may make delivery dependent on the realization of any such measures.

Rectifier				Ratings			
Symbol	Definition	Conditions	min.	typ.	max.	Unit	
V_{RSM}	max. non-repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$			1500	V	
V_{RRM}	max. repetitive reverse blocking voltage	$T_{VJ} = 25^{\circ}\text{C}$			1400	V	
I_R	reverse current	$V_R = 1400\text{ V}$	$T_{VJ} = 25^{\circ}\text{C}$		100	μA	
		$V_R = 1400\text{ V}$	$T_{VJ} = 150^{\circ}\text{C}$		2	mA	
V_F	forward voltage drop	$I_F = 50\text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$		1.13	V	
		$I_F = 150\text{ A}$			1.47	V	
		$I_F = 50\text{ A}$	$T_{VJ} = 125^{\circ}\text{C}$		1.05	V	
		$I_F = 150\text{ A}$			1.49	V	
I_{DAV}	bridge output current	$T_C = 115^{\circ}\text{C}$ rectangular $d = \frac{1}{3}$	$T_{VJ} = 150^{\circ}\text{C}$		125	A	
V_{FO}	threshold voltage	} for power loss calculation only	$T_{VJ} = 150^{\circ}\text{C}$		0.80	V	
r_F	slope resistance				4.6	m Ω	
R_{thJC}	thermal resistance junction to case				0.6	K/W	
R_{thCH}	thermal resistance case to heatsink			0.3		K/W	
P_{tot}	total power dissipation		$T_C = 25^{\circ}\text{C}$		205	W	
I_{FSM}	max. forward surge current	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 45^{\circ}\text{C}$		1.00	kA	
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$		1.08	kA	
		$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 150^{\circ}\text{C}$		850	A	
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$		920	A	
I^2t	value for fusing	$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 45^{\circ}\text{C}$		5.00	kA ² s	
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$		4.85	kA ² s	
		$t = 10\text{ ms}; (50\text{ Hz}), \text{ sine}$	$T_{VJ} = 150^{\circ}\text{C}$		3.62	kA ² s	
		$t = 8,3\text{ ms}; (60\text{ Hz}), \text{ sine}$	$V_R = 0\text{ V}$		3.52	kA ² s	
C_J	junction capacitance	$V_R = 400\text{ V}; f = 1\text{ MHz}$	$T_{VJ} = 25^{\circ}\text{C}$		35	pF	

PHASE OUT

Phase out

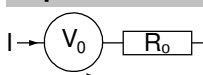
Package ECO-PAC2		Ratings				
Symbol	Definition	Conditions	min.	typ.	max.	Unit
I_{RMS}	RMS current	per terminal			100	A
T_{VJ}	virtual junction temperature		-40		150	°C
T_{op}	operation temperature		-40		125	°C
T_{stg}	storage temperature		-40		125	°C
Weight				24		g
M_D	mounting torque		1.4		2	Nm
$d_{Spp/App}$	creepage distance on surface striking distance through air	terminal to terminal	6.0			mm
$d_{Spb/Apb}$		terminal to backside	10.0			mm
V_{ISOL}	isolation voltage	t = 1 second	3000			V
		t = 1 minute	2500			V



Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
Standard	VUO122-14NO7	VUO122-14NO7	Box	25	494445

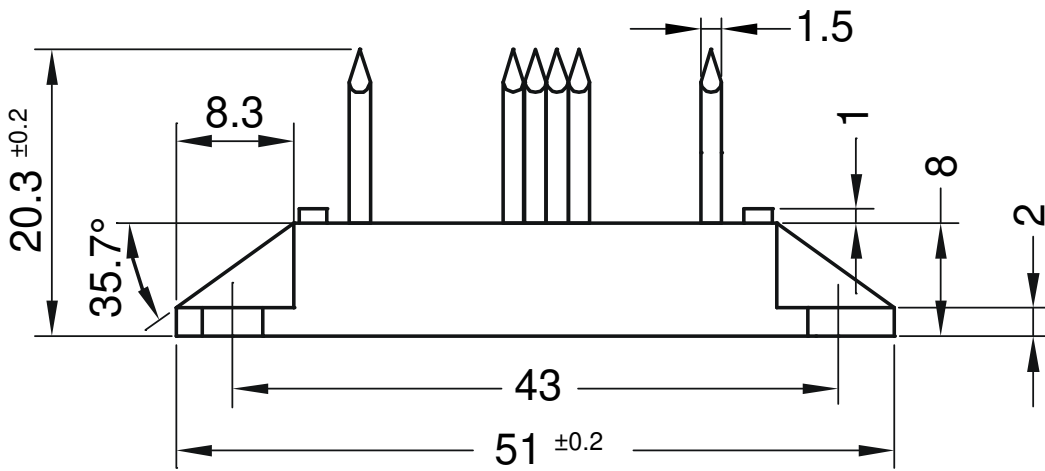
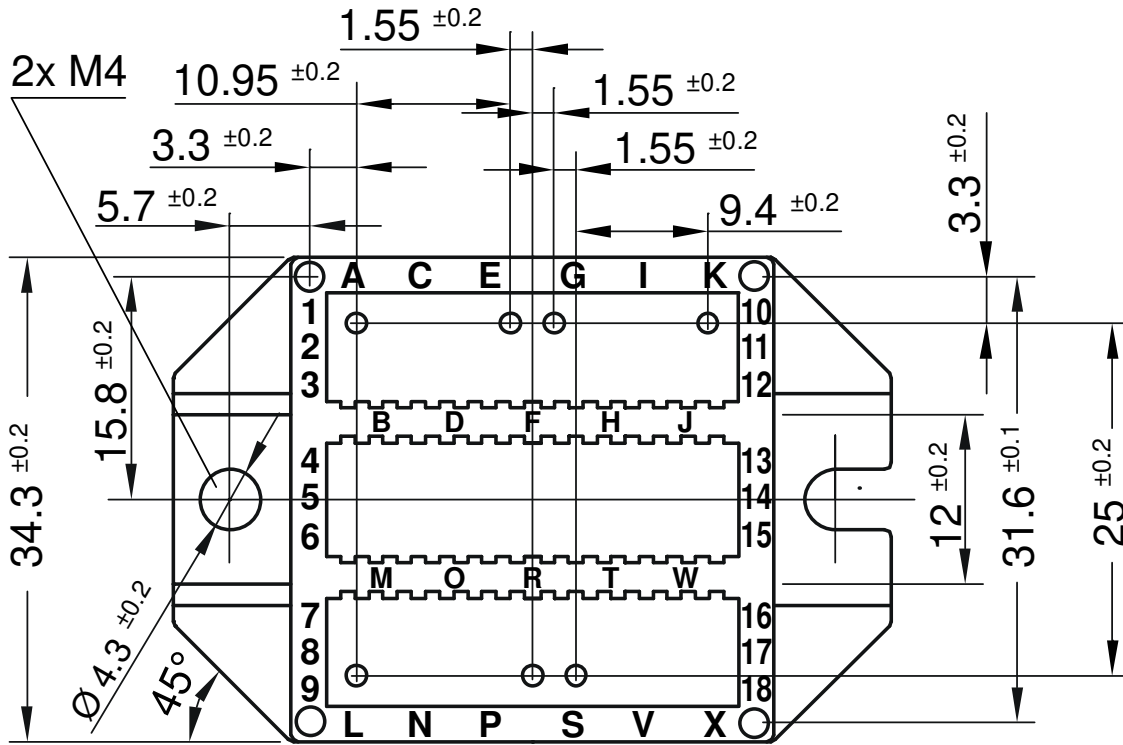
Equivalent Circuits for Simulation

* on die level

 $T_{VJ} = 150\text{ °C}$

Rectifier

$V_{0\ max}$	threshold voltage	0.8	V
$R_{0\ max}$	slope resistance *	3.4	mΩ

Outlines ECO-PAC2



Rectifier

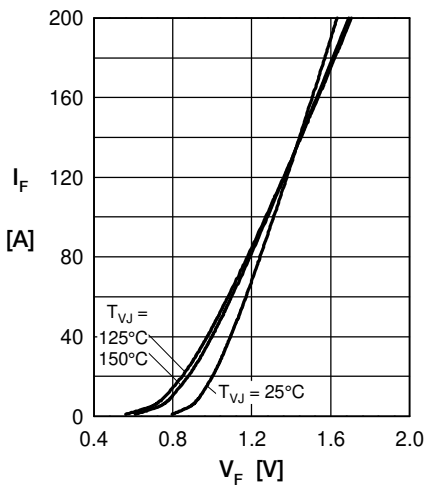


Fig. 1 Forward current vs. voltage drop per diode

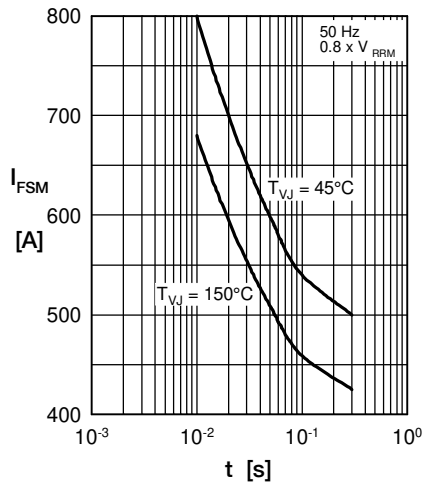


Fig. 2 Surge overload current vs. time per diode

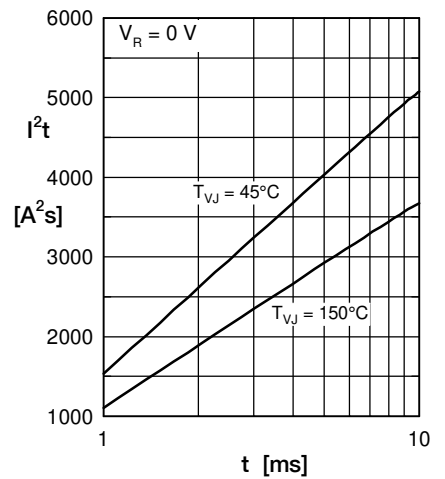


Fig. 3 I^2t vs. time per diode

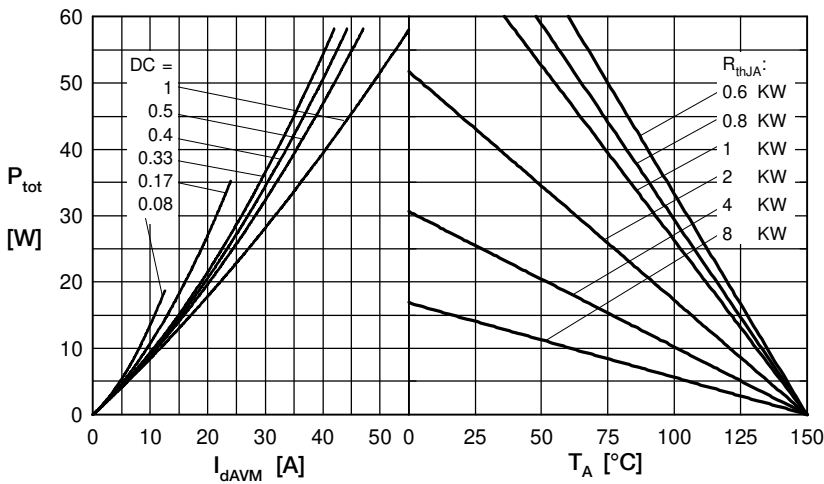


Fig. 4 Power dissipation vs. forward current and ambient temperature per diode

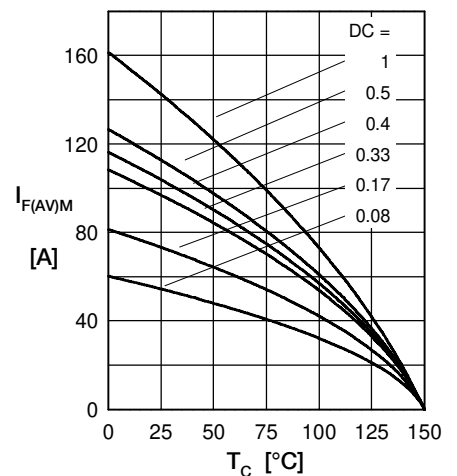


Fig. 5 Max. forward current vs. case temperature per diode

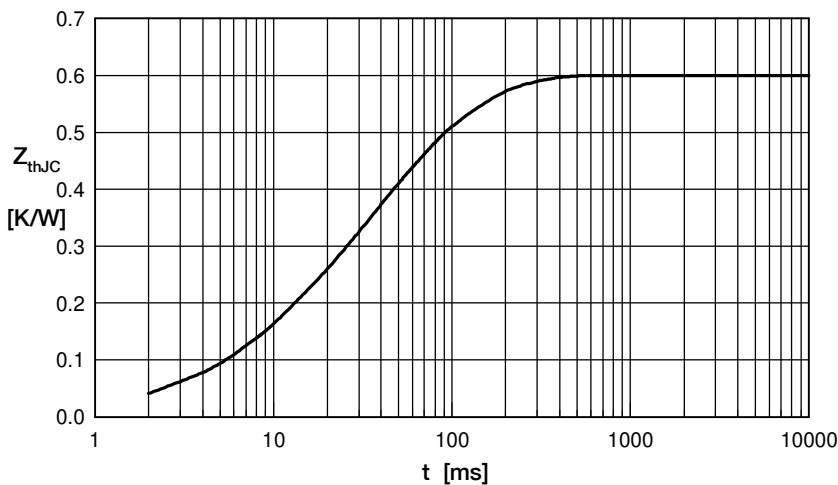


Fig. 6 Transient thermal impedance junction to case vs. time per diode

Constants for Z_{thJC} calculation:

i	R_{th} (K/W)	t_i (s)
1	0.08	0.012
2	0.04	0.007
3	0.29	0.036
4	0.19	0.102



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



Как с нами связаться

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