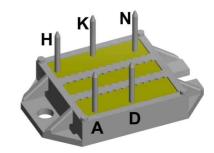


# **Standard Rectifier Module**

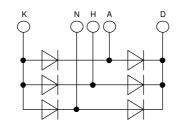
3~ Rectifier Bridge

Part number VUO28-12NO7





**N** E72873



## 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-PAC1

- 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

#### **Disclaimer Notice**

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VUO28-12NO7



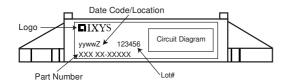
# VUO28-12NO7

Rectifier					Rating	S	
Symbol	Definition	Conditions		min.	typ.	max.	Unit
V <sub>RSM</sub>	max. non-repetitive reverse bloc	king voltage	$T_{VJ} = 25^{\circ}C$			1300	V
V <sub>RRM</sub>	max. repetitive reverse blocking	voltage	$T_{VJ} = 25^{\circ}C$			1200	V
I <sub>R</sub>	reverse current	$V_{R} = 1200 V$	$T_{VJ} = 25^{\circ}C$			10	μA
		$V_{R} = 1200 V$	$T_{vJ} = 150^{\circ}C$			0.7	mA
V <sub>F</sub>	forward voltage drop	I <sub>F</sub> = 10 A	$T_{VJ} = 25^{\circ}C$			1.20	V
		$I_{F} = 30 \text{ A}$				1.61	V
		$I_{F} = 10 \text{ A}$	T <sub>vJ</sub> = 125 °C			1.14	V
		$I_{F} = 30 \text{ A}$				1.68	V
<b>I</b> dav	bridge output current	T <sub>c</sub> = 105°C	T <sub>vJ</sub> = 150°C			30	Α
		rectangular $d = \frac{1}{3}$					
V <sub>F0</sub>	threshold voltage		T <sub>vJ</sub> = 150°C			0.84	V
r <sub>F</sub>	slope resistance } for power	loss calculation only				28.8	mΩ
<b>R</b> <sub>thJC</sub>	thermal resistance junction to ca	ase				2.5	K/W
R <sub>thCH</sub>	thermal resistance case to heats	sink			0.4		K/W
P <sub>tot</sub>	total power dissipation		$T_c = 25^{\circ}C$			50	W
	max. forward surge current	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^{\circ}C$			120	А
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			130	А
		t = 10 ms; (50 Hz), sine	T <sub>vJ</sub> = 150°C			100	Α
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			110	Α
l²t	value for fusing	t = 10 ms; (50 Hz), sine	$T_{VJ} = 45^{\circ}C$			72	A <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			70	A²s
		t = 10 ms; (50 Hz), sine	$T_{vJ} = 150 ^{\circ}\text{C}$			50	A <sup>2</sup> s
		t = 8,3 ms; (60 Hz), sine	$V_{R} = 0 V$			50	A²s
C	junction capacitance	$V_{B} = 400 \text{ V}; \text{ f} = 1 \text{ MHz}$	$T_{vJ} = 25^{\circ}C$		4		pF

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Package ECO-PAC1			1	Ratings			
Symbol	Definition	Conditions		min.	typ.	max.	Unit
I <sub>RMS</sub>	RMS current	per terminal				100	Α
T <sub>vj</sub>	virtual junction temperature					150	°C
T <sub>op</sub>	operation temperature			-40		125	°C
T <sub>stg</sub>	storage temperature			-40		125	°C
Weight					19		g
MD	mounting torque			1.4		2	Nm
d <sub>Spp/App</sub>	creepage distance on surface   striking distance through air		terminal to terminal	6.0			mm
d <sub>Spb/Apb</sub>			terminal to backside	10.0			mm
V	isolation voltage	t = 1 second		3000	3000		V
		t = 1 minute	50/60 Hz, RMS; liso∟ ≤ 1 mA	2500			V



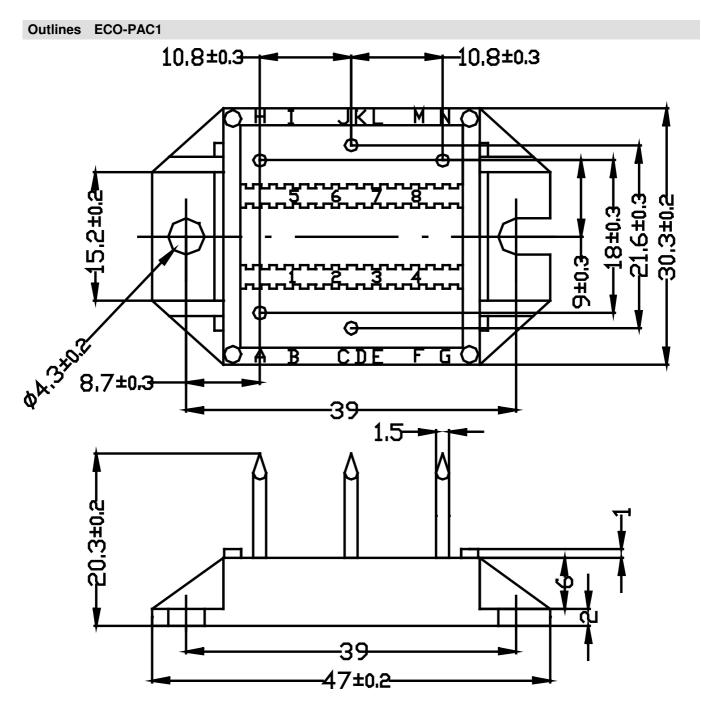
Γ	Ordering	Ordering Number	Marking on Product	Delivery Mode	Quantity	Code No.
	Standard	VUO28-12NO7	VUO28-12NO7	Box	25	479632

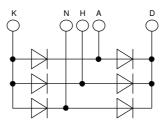
Equivalent Circuits for Simulation			* on die level	$T_{VJ} = 150^{\circ}C$
	R₀	Rectifier		
V <sub>0 max</sub>	threshold voltage	0.84		V
$\mathbf{R}_{0 \max}$	slope resistance *	27.6		mΩ

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