

Three Phase Rectifier Bridge with NTC

$$V_{RRM} = 1200/1600 \text{ V}$$

$$I_{DAVM} = 188 \text{ A}$$

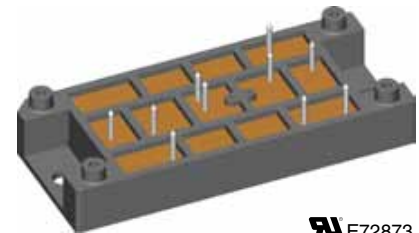
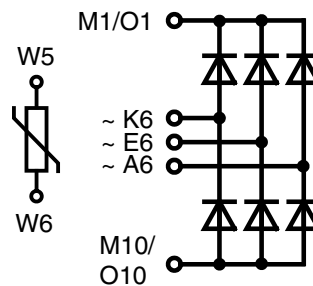
$$I_{FSM} = 1100 \text{ A}$$


Preliminary data

Part name (Marking on product)

VUO120-12NO2T

VUO120-16NO2T



 E72873

Pin configuration see outlines.

Features:

- Soldering connections for PCB mounting
- Isolation voltage 3600 V~
- Convenient package outline
- NTC

Application:

- Three Phase Rectifier Bridge

Package:

- Easy to mount with two screws
- Suitable for wave soldering
- High temperature and power cycling capability
- UL registered, E72873

Rectifier Diode

Symbol	Conditions	Ratings			Unit
		min.	typ.	max.	
V_{RRM}	max. repetitive reverse voltage	$T_{VJ} = 25^{\circ}\text{C}$		1200 1600	V V
I_R	reverse current	$V_R = V_{RRM}$	$T_{VJ} = 25^{\circ}\text{C}$ $T_{VJ} = 150^{\circ}\text{C}$	0.3 5	mA mA
V_F	forward voltage	$I_F = 150\text{ A}$	$T_{VJ} = 25^{\circ}\text{C}$	1.46	V
$I_{D(AV)M}$	max. average DC output current	rectangular; $d = 1/3$; bridge	$T_C = 80^{\circ}\text{C}$	188	A
V_{F0}	threshold voltage		$T_{VJ} = 150^{\circ}\text{C}$	0.87	V
r_F	slope resistance	for power loss calculation only		4	m Ω
R_{thJC}	thermal resistance junction to case	per diode	$T_{VJ} = 25^{\circ}\text{C}$	0.6	K/W
R_{thCH}	thermal resistance case to heatsink		$T_{VJ} = 25^{\circ}\text{C}$	0.2	K/W
P_{tot}	total power dissipation		$T_C = 25^{\circ}\text{C}$	210	W
I_{FSM}	max. forward surge current	$t = 10\text{ ms (50Hz)}$ $V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}\text{C}$ $T_{VJ} = 150^{\circ}\text{C}$	1100 960	A A
I^2t	value for fusing	$t = 10\text{ ms (50Hz)}$ $V_R = 0\text{ V}$	$T_{VJ} = 45^{\circ}\text{C}$ $T_{VJ} = 150^{\circ}\text{C}$	6050 4610	A ² s A ² s

Temperature Sensor NTC

Symbol	Definitions	Conditions	Ratings			Unit
			min.	typ.	max.	
R_{25}	resistance	$T_C = 25^{\circ}\text{C}$	4.75	5.0	5.25	k Ω
$B_{25/85}$				3375		K

Module

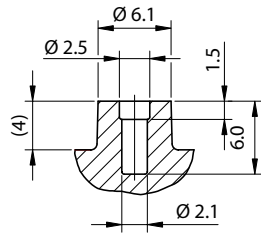
Symbol	Definitions	Conditions	Ratings			Unit
			min.	typ.	max.	
T_{VJ}	operating temperature		-40		150	$^{\circ}\text{C}$
T_{VJM}	max. virtual junction temperature				150	$^{\circ}\text{C}$
T_{stg}	storage temperature		-40		125	$^{\circ}\text{C}$
V_{ISOL}	isolation voltage	$I_{ISOL} \leq 1\text{ mA}; 50/60\text{ Hz};$	$t = 1\text{ min.}$ $t = 1\text{ s}$		3000 3600	V~ V~
M_d	mounting torque	(M5)	2.0		2.5	Nm
d_S	creep distance on surface		12.7			mm
d_A	strike distance through air		9.4			mm
a	maximum allowable acceleration		50			m/s ²
Weight				80		g

$T_C = 25^{\circ}\text{C}$ unless otherwise stated

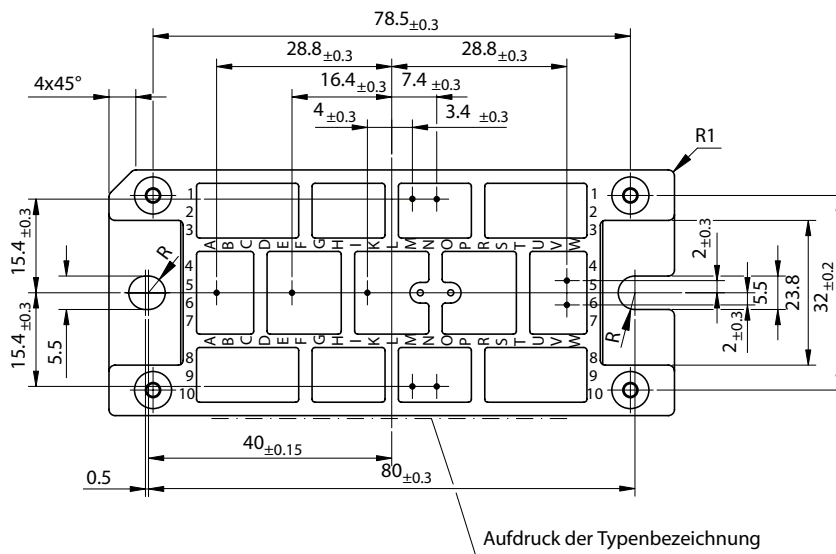
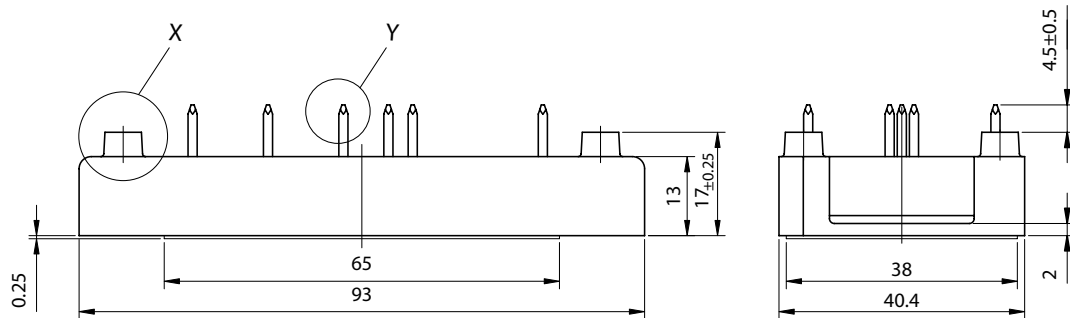
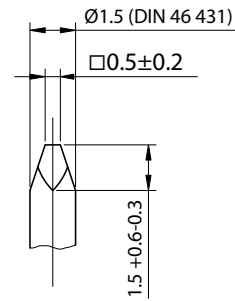
Outline Drawing

Dimensions in mm (1 mm = 0.0394")

Detail X M 2:1



Detail Y M 5:1



Product Marking

Ordering	Part Name	Marking on Product	Delivering Mode	Base Qty	Ordering Code
Standard	VUO 120-12NO2T	VUO120-12NO2T	Box	6	510989
Standard	VUO 120-16NO2T	VUO120-16NO2T	Box	6	510996

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

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