

## Three Phase Rectifier Bridge with NTC

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

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

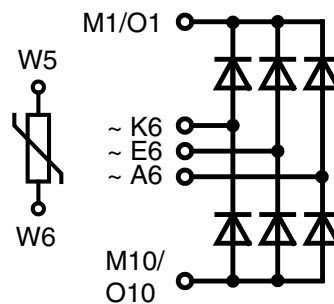
$$I_{FSM} = 1100 \text{ A}$$


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			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 $\Omega$
$R_{thJC}$	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 <sup>2</sup> s A <sup>2</sup> 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 $\Omega$
$B_{25/85}$					3375		K

**Module**

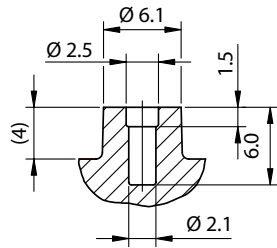
Symbol	Definitions	Conditions	Ratings			Unit
			min.	typ.	max.	
$T_{VJ}$	operating temperature		-40		150	$^\circ\text{C}$
$T_{VJM}$	max. virtual junction temperature				150	$^\circ\text{C}$
$T_{stg}$	storage temperature		-40		125	$^\circ\text{C}$
$V_{ISOL}$	isolation voltage	$I_{ISOL} \leq 1\text{ mA}; 50/60\text{ Hz};$			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 <sup>2</sup>
<b>Weight</b>				80		g

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

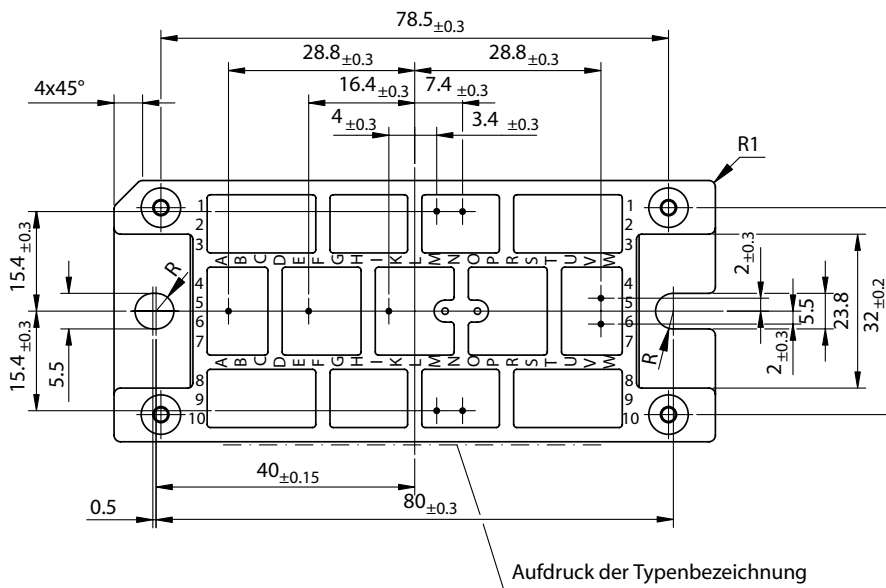
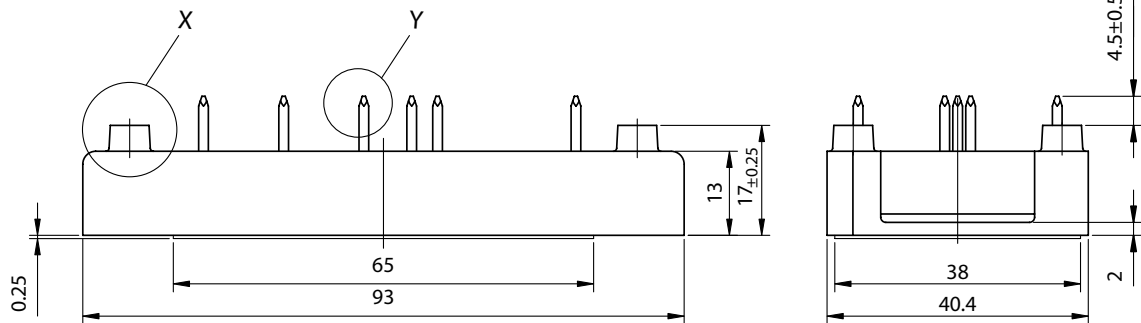
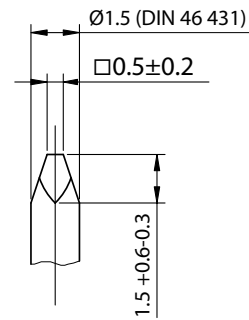
## Outline Drawing

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