



## Ordering information

### TESD 300 - 24W S 12 - U T B

1 2 3 4 5 6 7 8

- 1 - «TESD» Series
- 2 - Max output power, W
- 3 - Input voltages
  - 24 - 24 VDC (18...36 VDC)
  - 24W - 24 VDC (17...75 (84) VDC)
  - 48 - 48 VDC (36...75 VDC)
- 4 - Index of output channels quantity
  - S - one
- 5 - Nominal output voltage, VDC (two signs for a channel)
- 6 - Index of case design
  - U - metal case with flanges
- 7 - Index of operating temperature range of the case
  - T -60°C...+125°C
- 8 - Index of low cost version
  - B - Low cost version (input voltage ranges 18...36 VDC, 36...75 VDC, or customer-considered simplified construction)

## Technical information

### Standard models with one output

Module	Input voltage range	Output power	Output voltage / nominal output current	Typical efficiency
TESD300-24WS12-XX	17...75 (84) VDC	300 W	12 VDC / 33,3 A	85%
TESD300-24WS15-XX	17...75 (84) VDC	300 W	15 VDC / 26,6 A	85%
TESD300-24WS24-XX	17...75 (84) VDC	300 W	24 VDC / 16,6 A	87%
TESD300-24WS27-XX	17...75 (84) VDC	300 W	27 VDC / 14,8 A	87%
TESD300-24WS48-XX	17...75 (84) VDC	300 W	48 VDC / 8,33 A	87%
TESD300-24S12-XXB	18...36 VDC	300 W	12 VDC / 33,3 A	85%
TESD300-24S15-XXB	18...36 VDC	300 W	15 VDC / 26,6 A	85%
TESD300-24S24-XXB	18...36 VDC	300 W	24 VDC / 16,6 A	87%
TESD300-24S27-XXB	18...36 VDC	300 W	27 VDC / 14,8 A	87%
TESD300-24S48-XXB	18...36 VDC	300 W	48 VDC / 8,33 A	87%
TESD300-48S12-XXB	36...75 VDC	300 W	12 VDC / 33,3 A	85%
TESD300-48S15-XXB	36...75 VDC	300 W	15 VDC / 26,6 A	85%
TESD300-48S24-XXB	36...75 VDC	300 W	24 VDC / 16,6 A	87%
TESD300-48S27-XXB	36...75 VDC	300 W	27 VDC / 14,8 A	87%
TESD300-48S48-XXB	36...75 VDC	300 W	48 VDC / 8,33 A	87%

Modules with non-standard output voltage from 3 to 80 VDC with maximal output current up to 40 A, could be delivered by request.

## Specifications for DC/DC converters TESD300\*

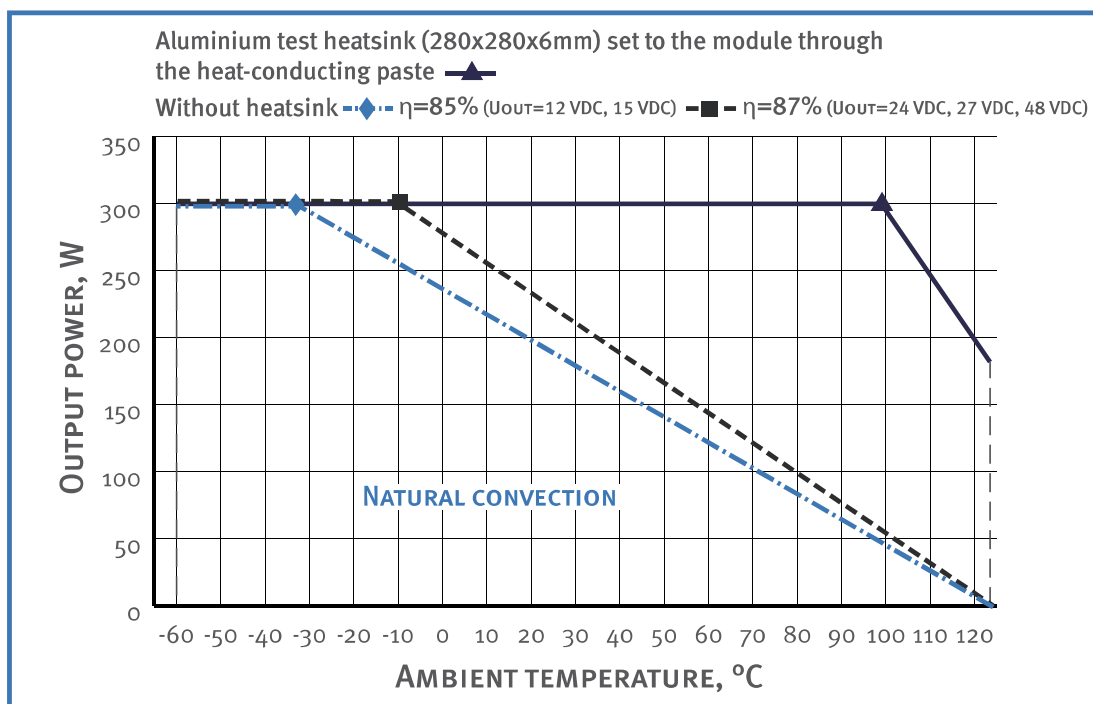
<b>Input specifications</b>	
Input voltage range / transitional deviation, 1 sec 24W	=17...75 VDC / =17...84 VDC
Input voltage range / transitional deviation, 1 sec 24	=18...36 VDC / =17...40 VDC
Input voltage range / transitional deviation, 1 sec 48	=36...75 VDC / =36...84 VDC
Input filter	P-type
<b>Output specifications</b>	
Output voltage adjustment	±5% Uout
Instability of output voltage in accordance to changing of output current from 10 to 100%	±2%
Instability of output voltage in accordance to changing of input voltage	±0,5%
Ripple and noise (peak-to-peak) (20 MHz)	<2% Uout
Short circuit protection**	>150% Iout nom, auto repair
Overvoltage protection**	<130 % Uout
Over current protection level**	Pout ... 1.3·Pout
Remote On/Off	Shuts down outputs by applying 0...1,1VDC or connection of output «ON» and «- IN», I≤5mA
The maximum output power without the heatsink, Tamb=50°C	113 W
<b>General specifications</b>	
Case temperature (operating)	-60°C ...+125°C ***
Case temperature (storage)	-60°C ...+125°C
Output power derating (natural convection)	See diagram (dashed, dash-dotted curve)
Output power with heatsink	See diagram (solid curve)
High humidity	100% @35 °C
Thermal resistance case — environment without heat sink	3,0 °C/W
Conversion frequency	300-350 kHz
Insulation voltage input/output	=1500 VDC
Insulation voltage input/case	=1500 VDC
Insulation voltage output/case	=1000 VDC
Isolation resistance @ 500 VDC	>20 MOhm
EMC standards	EN 55022, class A; EN 55022, class B with additional filter
Safety standard	IEC/ EN 60950
Typical MTBF (Tcase = 50°C; Pout = 0,7 Pout max)	50 000 hrs
Cooling metod	Free air convection or forced air cooling
Weight (max)	250 g

\* All specifications are valid for normal climatic conditions, Uin.nom., Iout.nom., unless otherwise stated.

\*\* Parameters are stated for the information purposes and could not be used at long term work, exciding maximum output current, at work outside of a range of operating temperatures.

\*\*\* Thermal protection chip starts operating at 118°...125 °C.

## Output power vs an ambient temperature at input voltage =17...75 (84) VDC



Dropping parts of the dashed and dash-dotted curves are in accordance with the **maximum temperature of the case**. Output power must not exceed the values which are limited by corresponding curve for a given ambient temperature.

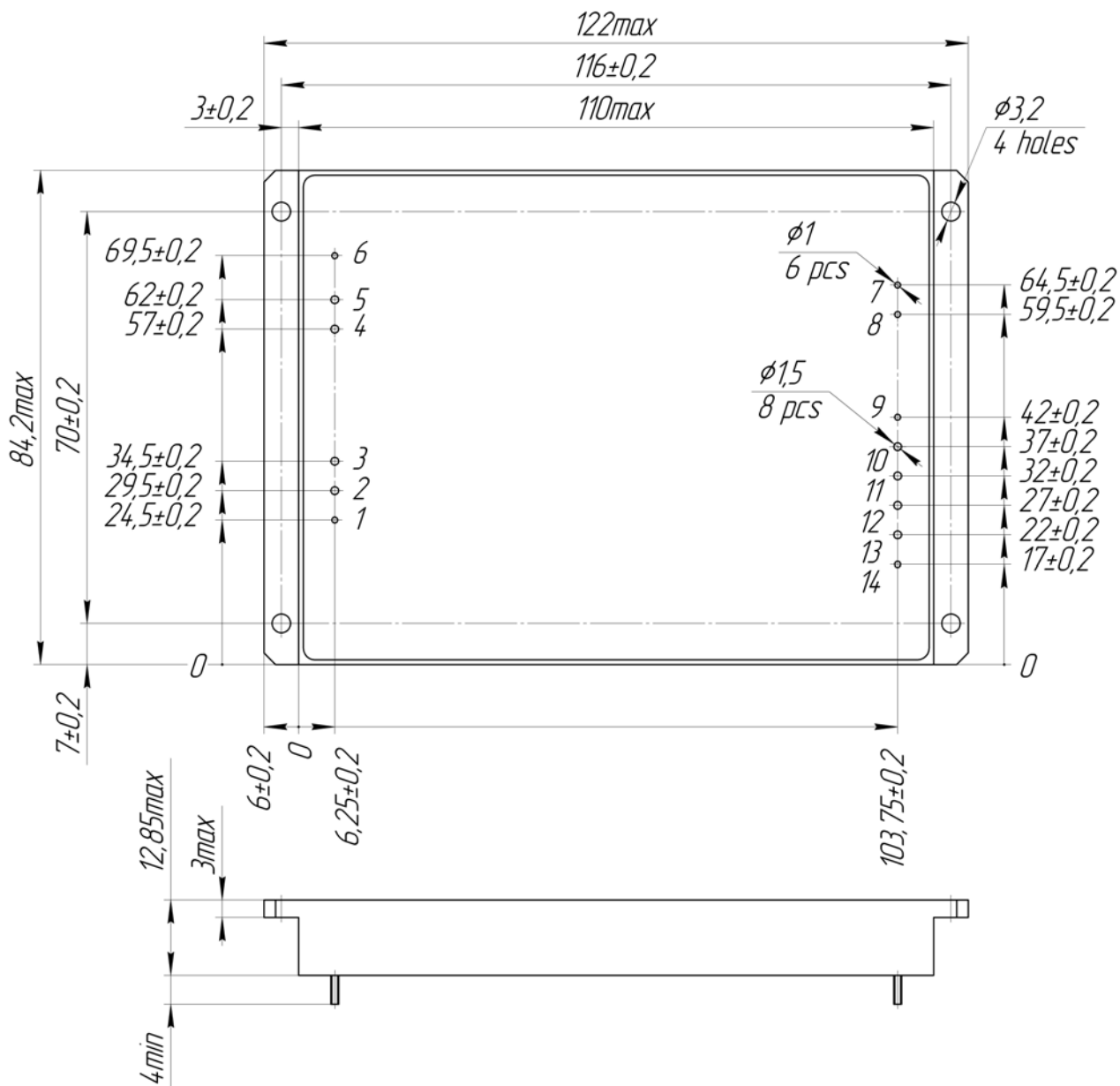
Modules can be used without a heat sink only when screwing them heat conductive plate with thermal paste and with the length and width not less than case size and thickness of not less than 3 mm.

At points ◆, ■ and ▲ simultaneously present several extreme worst-case conditions, such as the combination of maximum case temperature and maximum output power. Continuous module operation at these points should be avoided.

## Pin out

Nº Pin	1	2,3	4,5	6	7	8	9	10,11	12,13	14
Single output	ON	-IN	+IN	CASE	PARAL	ADJ	-RS	-OUT	+OUT	+RS

## Single output model with flanges (VII case type)



## Certificates

Certificate ISO\*  
CE conformity declaration

\*Management system of Alexander Electric is ISO certified

## Note

Please, note that all information in this material is for reference only. Further detailed information (including: additional requirements, manuals and circuit schemes) is found on our website <http://www.teslaelectric-eu.com>.

## Contact information

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