custom JETDiR32-R

Features

- **Up to 32 W output power**
- **Case operating temp. range -40...+95 °C**
- **Efficiency > 85 %**
- **22x60x15 (mm) aluminum case, 22x65x15 (mm) MAX.**
- **Coating Alu 6061 (or equivalent) with Yellow Chromate**
- **Input voltage range: "270" - (230-350 VDC)**
- **Output voltage trimming**
- **Remote on/off**
- **CE102 MIL-STD-461F in-built filter**

Description

JETDiR32-R is a custom isolated DC/DC converter meant to work under both heavy electrical and environmental conditions. Output power of **32 W** with case operating range of **-40° to +95° C**. The units feature a system of over-current protection and over-voltage protection. Standard functions include remote on/off and output voltage trimming. Its versatility allows you to implement the converter in a vast number of industrial applications, supplying capacitive, constant-power and impulse load. Application fields: low-high altitude, land transport, supercomputers, mining, equipment in high and low temperature regions, digital signage equipment, APAR radars and others - where there are needed low-profile and high efficiency.

JETDiR32-R					
One channel 32 W model	**Input voltage range**	**Power max.**	**Output voltage nom.**	**Output current max.**	**Efficiency typ.**
JETDiR32-270S08-R	**230-350 VDC** (270 VDC nominal) **450 VDC transient**	**32 W**	**8 VDC nominal** 6-9.2 VDC trimming range	**4.0 A**	**>85 %**

Important parameters

Input

1.1 Input voltage range	230-350 VDC
1.2 Input transient general values	450 VDC peak, 50 ms MAX
1.3 Input transient voltage-time form	TBD
1.4 Inrush Current Limiting	0.81 A x 50 us MAX
1.5 Reverse polarity protection	yes
1.6 No-load power consumption	< 1 W
1.7 EMC compliance	MIL-STD-461F CE102 in-built filter

Output

2.1 Line and Load regulation	for 10-100 % load, <1 %
2.2 Output ripple peak-to-peak	< 20 mVpp for 10-100 % load
2.3 Output trimming	in range 6-9.2 VDC via ADJ input

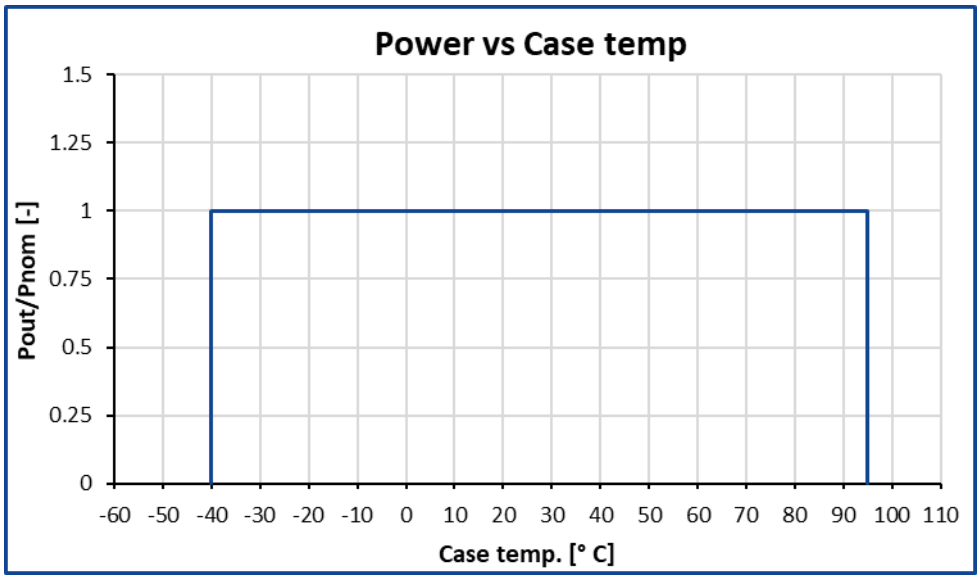
General, thermal, mechanical

3.1 Insulation	input-case, input-output, output-case: 1000 VDC
3.2 Case type	metal case, enclosed from all 6 sides
3.3 Case material and coating	Alu 6061 (or equivalent) with Yellow Chromate
3.4 Case dimensions - preferrable	22 x 60 x 15
3.5 Case dimensions - MAX	22 x 65 x 15
3.6 Unit weight	< 70 g (TBD)
3.7 Pin length	5 mm
3.8 Cooling	conduction cooled or natural convection
3.9 Case operating temp. range	-40 to +95 °C

General specifications		
Switching frequency		300 kHz typ. (PWM modulation)
Temperature ranges	operating case temp.	–40 °C to +95 °C
	storage temp.	–55 °C to +125 °C
Over-temperature protection		+100 °C typ.
Thermal mode and cooling method	conductive via heatsink	
Humidity (non-condensing)		5-95 % rel. H
Insulation	input/case, input/output	1000 VDC
	output/case	1000 VDC
Isolating resistance @ 500 VDC		>20 MOhm
Thermal shock, mechanical shock & vibration		MIL-STD-810F
Safety standards		IEC/EN 60950-1
Typical MTBF	Pout = 0.7·Pout.max	150 000 hrs (Tcase = 50 °C)
Weight (max)		*TBD, preferably <70 g*
Input specifications		
Input voltage range	range "270"	230-350 VDC (270 VDC nominal)
Start-up input voltage		<230 VDC
Transient voltage	450 VDC peak, 50 ms MAX. Surge curve TBD.	
EMC standard compliance	MIL-STD-461F CE102	
Output specifications		
Output voltage adjustment	in range 6-9.2 VDC of output, via ADJ output (see drawing)	
Output voltage regulation	input variance Uin,min to Uin,max	< ±1 % for 10-100 % load
	load var. 10 % to 100 %	< ±1 %
Ripple and noise (peak-to-peak)	20 MHz bandwidth	< 20 mVpp for 10-100 % load
Protection	over-load	auto-reset at 110-150 % of Iout,nom
	over-voltage	<130 % Uout
	reverse polarity	built-in
Remote Off	connect ON to -IN or apply 0-0.5 VDC to ON	

Please contact the tech. team at aeps@aeps-group.cz for more information.
All specifications are valid for normal climatic conditions, nominal output voltage and current, unless otherwise stated.

Max output power based on case temperature



Standard maximum power output based on case temperature.

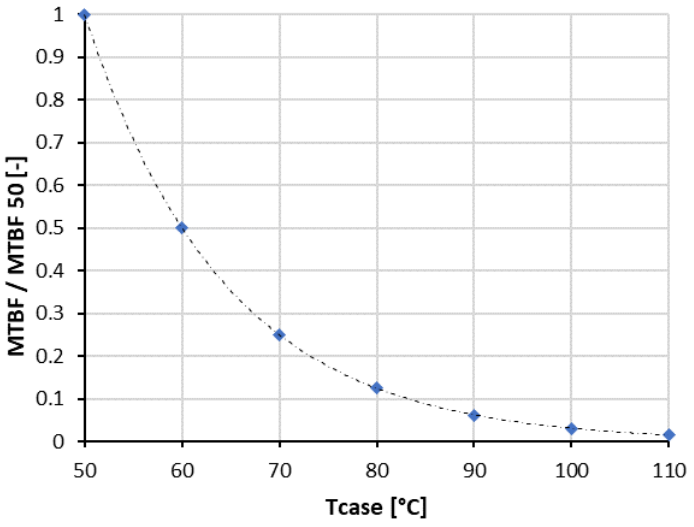
Before operation, the product label on converter top side has to be removed.

If chosen cooling method is conduction, the unit must be operated on a heatsink with thermal conductive paste applied between the unit surface and a heatsink for quality contact (with thickness less than 100 µm, of minimal thermal resistance 2 W/K.m). Mesh stencil should be used to apply paste in a pattern of 2x2 mm to 4x4 mm squares mm with 0.5-1 mm spacing between the squares. This allows paste to be evenly spread in a thin layer and excess air to escape when tightening screws during unit mounting.

Note:
The units have a short-circuit output protection, which is for emergency only, not for long-term operation. It's prohibited to turn on the units with short-circuited outputs (the units have the special detectors inside).

MTBF based on case temperature

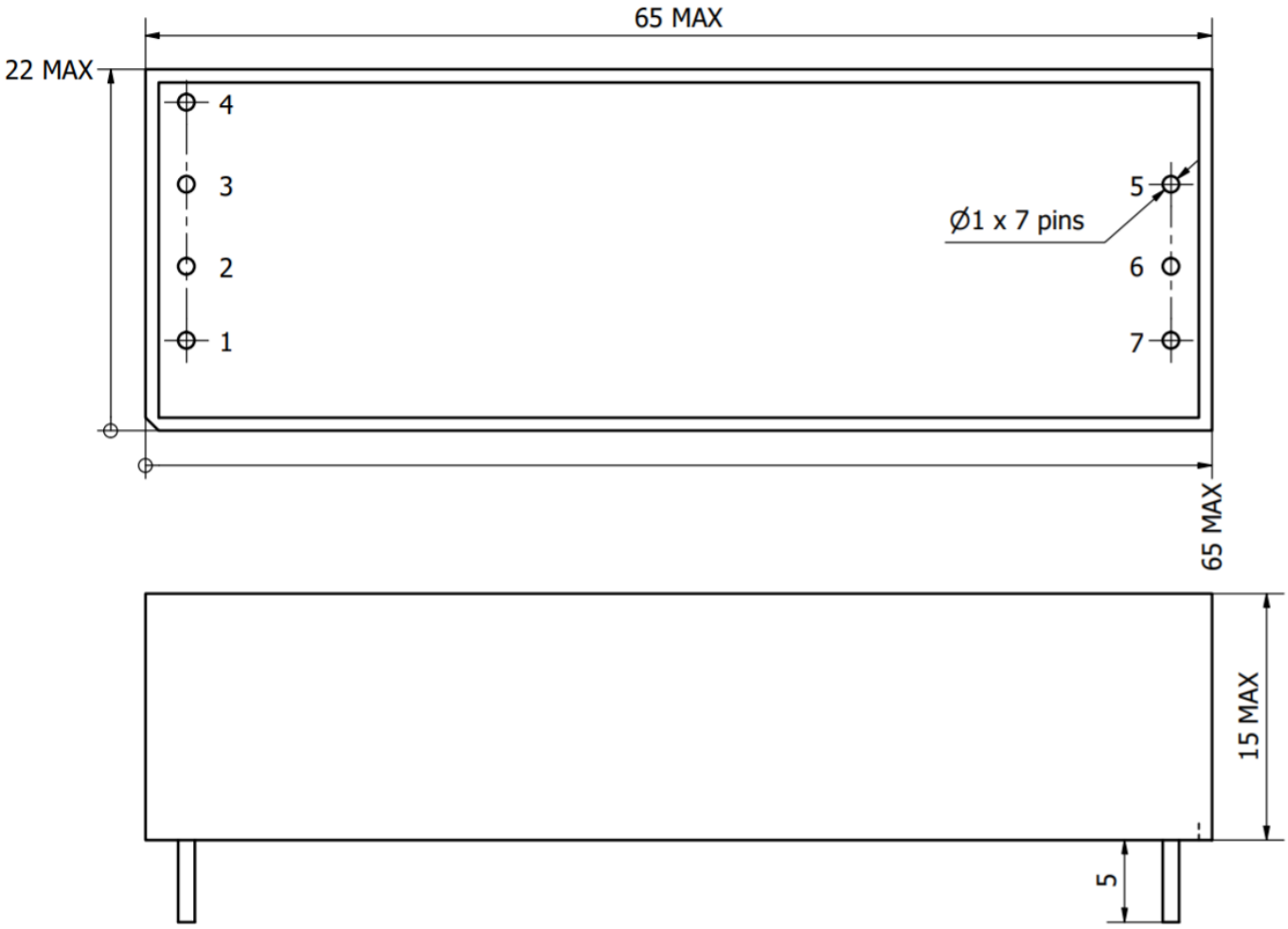
When using the unit, a customer must in one way or another monitor maximal heatsink temperature. Maximal heatsink temperature near the center point of the longer unit's side (considered as unit case temperature) must correspond to the expected unit's MTBF. Approximate MTBF function shown on the graph to the right, where MTBF / MTBF 50 is unit's MTBF value at chosen unit's case operating temperature relative to value at 50°C unit's case temperature.



Dimensions

1	2	3	4	5	6	7
CASE	ON	-IN	+IN	+OUT	-OUT	ADJ

Dimensions in millimeter, pcb mounting only



Additional information

After ordering the product - the customer is fully responsible for applying the product in strict compliance with mentioned rules and principles of use in the product datasheet and reference technical material (RTM) which is downloadable at www.aeps-group.com.

Please, note that all information in this material is for reference only. Further detailed information (including: additional requirements, manuals and circuit schemes) is found at www.aeps-group.com or provided via an email request at aeps@aeps-group.cz. All pictures shown are for illustration purpose only, actual product appearance may vary, incl. inner components choice and placement and connectors placement.

According to company's policy in view of constant improvements of the production design the manufacturer reserves the right to change the contents of specifications and promotional materials without prior notice! Make sure you are using the latest documentation downloadable at www.aeps-group.com.