TECHNICAL DATASHEET

DC-Converter 757UH-48-SD

700 Watt, isolated, single output buck-boost converter with internal decoupling diode

All parameters defined on Ta=25°C, IoNom = 15.0 ADC and UiNom = 24VDC

ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	125.00
Feedback protection against overvoltage on the output	VDC	65
Worst case output voltage in fault mode	VDC	70

THERMAL CHARACTERISTICS

parameter	min to max	typ
Ambient temperature range	-40°C / +85°C	
Max. case temperature for thermal shut down [°C]		+90°C
Storage temperature (device not in operation)	-10°C / +65°C	
Relative maximum humidity under storage		75% RH
Storage under worst conditions [in days]		25

COMMUNICATION INTERFACE

parameter	unit	fulfilled	conditions	min to max
Option shut down (left open for operation)		✓		
Shutdown voltage for transformer	VDC		IoNom	-0.2 to 2.8

SPECIALS

parameter	unit	fulfilled	conditions	typ
Switching frequency	kHz			130
Efficiency at light loads	%		0.25IoNom	95.00
Efficiency at medium loads	%		0.5IoNom	95.00
Efficiency at full loads	%		IoNom	95.00
MTTF	h		SN29500 @ 70°	1 100 000
For active loads or parallel connection		✓		
Drives high capacitive loads		✓		
CC/CV battery load characteristic		✓		
Coupling capacitance input to output	nF			transformer winding onl
Insulation strength primary to secondary	VDC			2100
Insulation strength primary to case	VDC			2100

COMPLIANCE

parameter	fulfilled	notes
61000-6-2 (EMC-Immunity standard for industrial environment)	✓	
61000-4-2 (immunity against ESD-electrostatic discharge)	✓	
61000-4-3 (immunity High frequency electromagnetic fields)	✓	
61000-4-4 (immunity against burst – electrical fast transients)	✓	
61000-4-5 (immunity against surge - high energy surges)	✓	

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61000-4-6 (immunity against induced, conducted disturbances)	✓
61000-6-4 (EMC – Emission standard for industrial environment)	✓
55022<A	✓

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INPUT

parameter	unit	conditions	min	typ	max
Input voltage range	VDC	IoNom	19	24	110
No load input current	mA	UiNom		110	
Max. input current	A	UiNom		41	
Input start up voltage	VDC	UiNom		19.0	
Undervoltage lockout	VDC	UiNom		17.5	
Input quiescent current in shutdown mode	mA	UiNom		4.50	
Generated AC-ripple on the supply (BW=20MHz)	mVp-p	UiNom/IoNom		50	
Generated HF-noise on the supply (BW=20MHz)	mVp-p	UiNom/IoNom		80	

OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		48.0	
No Load output voltage increase	%	UiNom		4	
Minimum required load to obtain the specified output voltage	%	UiNom		6	
Generated AC-ripple on the output (BW=20MHz)	mVp-p	UiNom/IoNom		100	
Generated HF-noise on the output (BW=20MHz)	mVp-p	UiNom/IoNom		10	
Output voltage accuracy	%	IoNom		+/-2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			700	

CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin…UiMa		0.02	
Static load regulation	%	IoMin…IoMax/UiNo		4.2	
Dynamic load change adjusting time	ms	LoadChange 10…90		1.50	
Dynamic load change deviation to nominal output voltage	V	LoadChange 10…90		2.50	
Maximum admissible capacitive load	uF	IoNom		infinite	
Initial switch on time	ms	IoNom		270	
Softstart ramp up time	ms	IoNom		30	
Restart time after undervoltage lockout	ms	IoNom		270	

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MECHANICAL

parameter	unit	
Overall dimensions	mm	130x130x27
Weight	g	900

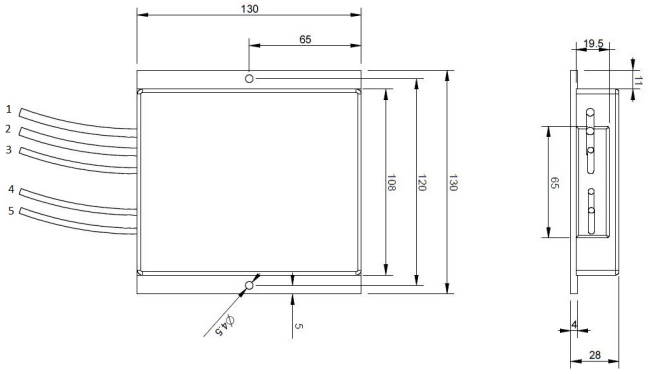
Pin No.	Function	Electrical Determination	Colour	Cross-	Cable length
1	Vi+	Input voltage positive	red	6 mm²	300 mm
2	Vi-	Input voltage negative	black	6 mm²	300 mm
3	SD	Shut down	blue	2.5 mm²	300 mm
4	Vo-	Output voltage negative	black	6 mm²	300 mm
5	Vo+	Output voltage positive	red	6 mm²	300 mm

Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: cable

Case: FMC 130x130x28



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