TECHNICAL DATASHEET

172-24-SD

960 Watt, non isolated, single output buck converter

All parameters defined on Ta=25°C, IoNom = 40.0 ADC and UiNom = 48VDC

ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	75.00
Feedback protection against overvoltage on the output	VDC	32
Worst case output voltage in fault mode	VDC	35
Output overvoltage protection	VDC	32.0

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)		✓		
Enable voltage for transformer	VDC		IoNom	26.0 to 70.0

SPECIALS

parameter	unit	fulfilled	conditions	typ
Switching frequency	kHz			110
Efficiency at light loads	%		0.25IoNom	96.00
Efficiency at medium loads	%		0.5IoNom	95.00
Efficiency at full loads	%		IoNom	95.00
MTTF	h		SN29500 @ 70	800 000
For active loads or parallel connection		✓		
Drives high capacitive loads		✓		
CC/CV battery load characteristic		✓		
Insulation strength primary to case	VDC			1500

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)	✓	
61000-4-6 (immunity against induced, conducted disturbances)	✓	

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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	26	48	70
Max. input current	A	UiNom		40	
Input start up voltage	VDC	UiNom		26.0	
Undervoltage lockout	VDC	UiNom		24.0	

OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		24.0	
Minimum required load to obtain the specified output voltage	%	UiNom		0	
Output voltage accuracy	%	IoNom		+/-2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			960	

CONTROL

parameter	unit	conditions	min	typ	max
Static load regulation	%	IoMin…IoMax/UiNom		2.0	
Dynamic load change adjusting time	ms	LoadChange 10…90		0.60	
Dynamic load change deviation to nominal output voltage	V	LoadChange 10…90		1.00	
Maximum admissible capacitive load	uF	IoNom		infinite	
Initial switch on time	ms	IoNom		500	
Softstart ramp up time	ms	IoNom		50	

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MECHANICAL

parameter	unit	
Overall dimensions	mm	130x130x28
Weight	g	900

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

This datasheet is preliminary.DC/DC under dev. Specs upon to change...

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