TECHNICAL DATASHEET

422-24-SD1

12 Watt, isolated, single output forward converter

All parameters defined on Ta=25°C, IoNom = 0,5 ADC and UiNom = 24VDC

ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	38.00

THERMAL CHARACTERISTICS

parameter	min to max	typ
Ambient temperature range	-40°C / +75°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	min to max
Option shut down (left open for operation)		✓	

SPECIALS

parameter	unit	conditions	typ
Switching frequency	kHz		200
Efficiency at medium loads	%	0.5IoNom	87.50
Efficiency at full loads	%	IoNom	88.00
Coupling capacitance input to output	nF		1
Insulation strength primary to secondary	VDC		500

COMPLIANCE

parameter	fulfilled	notes
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	9	24	36
No load input current	mA	UiNom		12	
Max. input current	A	UiNom		2	
Input start up voltage	VDC	UiNom		9.0	
Undervoltage lockout	VDC	UiNom		8.3	
Input quiescent current in shutdown mode	mA	UiNom		1.37	
Input current overshoot during soft start ramp up	%	IoNom		25	
Generated AC-ripple on the supply (BW=20MHz)	mVp-p	UiNom/IoNom		40	
Generated HF-noise on the supply (BW=20MHz)	mVp-p	UiNom/IoNom		40	

OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		24.0	
Minimum required load to obtain the specified output voltage	%	UiNom		0	
Generated AC-ripple on the output (BW=20MHz)	mVp-p	UiNom/IoNom		40	
Generated HF-noise on the output (BW=20MHz)	mVp-p	UiNom/IoNom		20	
Output voltage accuracy	%	IoNom		+/-2,00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			12	

CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin...UiMax		0.10	
Static load regulation	%	IoMin...IoMax/UiNom		0.2	
Dynamic load change adjusting time	ms	LoadChange 10...90%		0.60	
Maximum admissible capacitive load	uF	IoNom		1000	
Initial switch on time	ms	IoNom		8	
Softstart ramp up time	ms	IoNom		8	

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MECHANICAL

parameter	unit	
Overall dimensions	mm	50x25x11
Weight	g	28

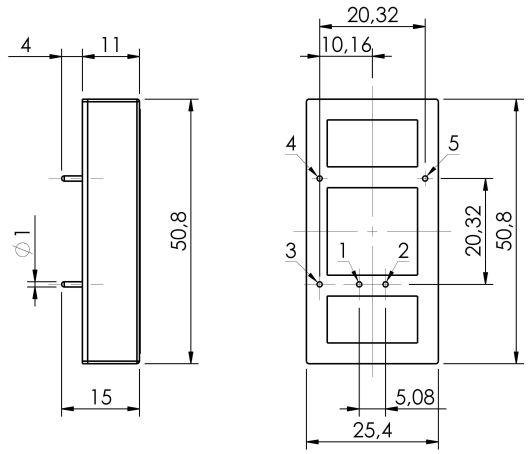
Pin No.	Function	Electrical Determination
1	Vi+	Input voltage positive
2	Vi-	Input voltage negative
3	SD1	Shut down Vi+ side
4	Vo+	Output voltage positive
5	Vo-	Output voltage negative

Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: THT

Case: 1"x2"



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