

## 412-3.3

9 Watt, isolated, single output forward converter

All parameters defined on  $T_a=25^{\circ}\text{C}$ ,  $I_{oNom} = 2.7 \text{ ADC}$  and  $U_{iNom} = 24\text{VDC}$

### ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	38.00

### THERMAL CHARACTERISTICS

parameter	min to max	typ
Ambient temperature range	$-40^{\circ}\text{C} / +75^{\circ}\text{C}$	
Storage temperature [device not in operation]	$-10^{\circ}\text{C} / +65^{\circ}\text{C}$	
Relative maximum humidity under storage		75% RH
Storage under worst conditions [in days]		25

### SPECIALS

parameter	unit	conditions	typ
Switching frequency	kHz		170
Efficiency at medium loads	%	$0.5I_{oNom}$	82.20
Efficiency at full loads	%	$I_{oNom}$	82.60
Coupling capacitance input to output	nF		1
Insulation strength primary to secondary	VDC		500
Insulation strength primary to case	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		9	
Input start up voltage	VDC	UiNom		9.0	
Undervoltage lockout	VDC	UiNom		8.4	
Input quiescent current in shutdown mode	mA	UiNom		2.00	
Input current overshoot during soft start ramp up	%	IoNom		25	
Generated AC-ripple on the supply [BW=20MHz]	mVp-p	UiNom/IoNom		30	
Generated HF-noise on the supply [BW=20MHz]	mVp-p	UiNom/IoNom		50	

### OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		3.3	
Minimum required load to obtain the specified output voltage	%	UiNom		0	
Generated AC-ripple on the output [BW=20MHz]	mVp-p	UiNom/IoNom		30	
Generated HF-noise on the output [BW=20MHz]	mVp-p	UiNom/IoNom		100	
Output voltage accuracy	%	IoNom		+/-2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			9	

### CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin...UiMax		0.10	
Static load regulation	%	IoMin...IoMax/UiNom		0.3	
Dynamic load change adjusting time	ms	LoadChange 10...90%		0.20	
Maximum admissible capacitive load	uF	IoNom		6800	
Initial switch on time	ms	IoNom		4	
Softstart ramp up time	ms	IoNom		4	

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### MECHANICAL parameter

parameter	unit	
Overall dimensions	mm	50x25x11
Weight	g	28

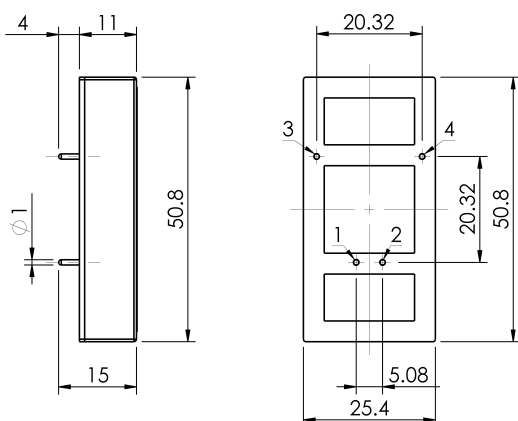
Pin No.	Function	Electrical Determination
1	Vi+	Input voltage positive
2	Vi-	Input voltage negative
3	Vo+	Output voltage positive
4	Vo-	Output voltage negative

### Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: THT

Case: 1"x2"



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