

## 344W-24-SD

50 Watt, isolated, single output buck-boost converter

All parameters defined on Ta=25°C, IoNom = 2.0 ADC and UiNom = 80VDC

### ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	170.00
Feedback protection against overvoltage on the output	VDC	35
Worst case output voltage in fault mode	VDC	29

### 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	min to max
Option shut down (left open for operation)		✓	

### SPECIALS

parameter	unit	fulfilled	conditions	typ
Switching frequency	kHz			130
Efficiency at medium loads	%		0.5IoNom	90.50
Efficiency at full loads	%		IoNom	89.50
MTTF	h		SN29500 @ 70°	1 600 000
For active loads or parallel connection		✓		
Drives high capacitive loads		✓		
Coupling capacitance input to output	nF			transformer winding only
Insulation strength primary to secondary	VDC			1000

### 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]	✓	
61000-6-3 [EMC -Emission standard for residential and light industry environment]	✓	
55022<B	✓	

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### INPUT

parameter	unit	conditions	min	typ	max
Input voltage range	VDC	IoNom	16	80	160
No load input current	mA	UiNom		16	
Max. input current	A	UiNom		4	
Input start up voltage	VDC	UiNom		16.7	
Undervoltage lockout	VDC	UiNom		15.5	
Input quiescent current in shutdown mode	mA	UiNom		1.20	
Input current overshoot during soft start ramp up	%	IoNom		70	
Generated AC-ripple on the supply [BW=20MHz]	mVp-p	UiNom/loNom		100	
Generated HF-noise on the supply [BW=20MHz]	mVp-p	UiNom/loNom		30	

### OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		24.0	
No Load output voltage increase	%	UiNom		4	
Minimum required load to obtain the specified output voltage	%	UiNom		0	
Generated AC-ripple on the output [BW=20MHz]	mVp-p	UiNom/loNom		10	
Generated HF-noise on the output [BW=20MHz]	mVp-p	UiNom/loNom		20	
Output voltage accuracy	%	IoNom		+/-2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			50	

### CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin...UiMax		0.10	
Static load regulation	%	IoMin...IoMax/UiNom		0.8	
Dynamic load change adjusting time	ms	LoadChange 10...90%		0.70	
Dynamic load change deviation to nominal output voltage	V	LoadChange 10...90%		0.13	
Maximum admissible capacitive load	uF	IoNom		infinite	
Initial switch on time	ms	IoNom		9	
Softstart ramp up time	ms	IoNom		4	

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### MECHANICAL parameter

parameter	unit	
Overall dimensions	mm	90x90x19
Weight	g	230

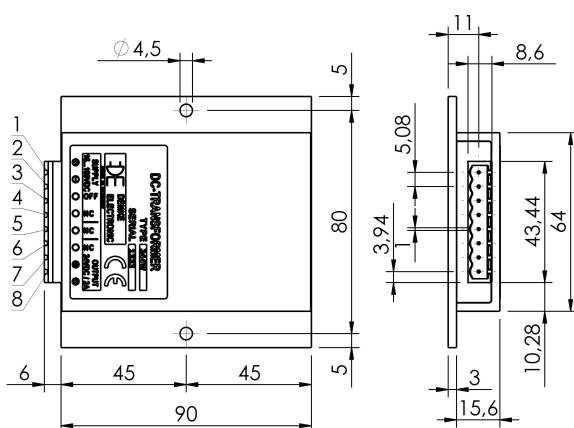
Pin No.	Function	Electrical Determination
1	Vi+	Input voltage positive
2	Vi-	Input voltage negative
3	SD	Shut down
4	NC	Not connected
5	NC	Not connected
6	NC	Not connected
7	Vo-	Output voltage negative
8	Vo+	Output voltage positive

### Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: CCA 2,5/8-G-5,08 P26THR

Case: 90x90x19



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