

## 364W2-15015-SDB1

120 Watt, isolated, bipolar output buck converter

All parameters defined on  $T_a=25^{\circ}\text{C}$ ,  $I_{oNom} = 8.0 \text{ ADC}$  and  $U_{iNom} = 80\text{VDC}$

### ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	170.00
Feedback protection against overvoltage on the output	VDC	18
Worst case output voltage in fault mode	VDC	24

### THERMAL CHARACTERISTICS

parameter	min to max	typ
Ambient temperature range	$-40^{\circ}\text{C} / +85^{\circ}\text{C}$	
Max. case temperature for thermal shut down [ $^{\circ}\text{C}$ ]		$+90^{\circ}\text{C}$
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

### COMMUNICATION INTERFACE

parameter	unit	fulfilled	conditions	min to max
Option shut down [left open for operation]		✓		
Shutdown voltage for transformer	VDC		$I_{oNom}$	-0.2 to 2.8
Option Switch high [left open for normal operation]		✓		
Switch high control voltage for transformer	VDC		$I_{oNom}$	-0.2 to 0.2
Output voltage in switch high mode	VDC		$I_{oNom}$	15.5

### SPECIALS

parameter	unit	fulfilled	conditions	typ
Switching frequency	kHz			120
Efficiency at light loads	%		$0.25I_{oNom}$	92.00
Efficiency at medium loads	%		$0.5I_{oNom}$	89.00
Efficiency at full loads	%		$I_{oNom}$	88.30
MTTF	h		SN29500 @ $70^{\circ}$	1 600 000
For active loads or parallel connection		✓		
Drives high capacitive loads		✓		
CC/CV battery load characteristic		✓		
Coupling capacitance input to output	nF			transformer winding only
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]	✓	

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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)	✓
61000-6-4 (EMC - Emission standard for industrial environment)	✓
55022<A	✓

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### INPUT

parameter	unit	conditions	min	typ	max
Input voltage range	VDC	IoNom	16	80	160
No load input current	mA	UiNom		24	
Max. input current	A	UiNom		8	
Input start up voltage	VDC	UiNom		16.6	
Undervoltage lockout	VDC	UiNom		15.4	
Input quiescent current in shutdown mode	mA	UiNom		6.00	
Generated AC-ripple on the supply [BW=20MHz]	mVp-p	UiNom/IoNom		520	
Generated HF-noise on the supply [BW=20MHz]	mVp-p	UiNom/IoNom		60	
Typical input noise slew rate [BW=500MHz]	mVp-p	UiNom/IoNom		50	
Reflected input ripple current	mA <sub>p-p</sub>	UiNom/IoNom		400	

### OUTPUT

parameter	unit	conditions	min	typ	max
Bipolar output voltage	VDC	IoNom		+/- 15	
No Load output voltage increase	%	UiNom		4	
Minimum required load to obtain the specified output voltage	%	UiNom		5	
Generated AC-ripple on the output [BW=20MHz]	mVp-p	UiNom/IoNom		10	
Generated HF-noise on the output [BW=20MHz]	mVp-p	UiNom/IoNom		40	
Typical output noise slew rate [BW=500MHz]	mVp-p	UiNom/IoNom		50	
Output voltage accuracy	%	IoNom		+/- 2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			120	
Cross regulation + to - output or third output	%			3	

### CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin...UiMax		0.10	
Static load regulation	%	IoMin...IoMax/UiNom		8.0	
Dynamic load change adjusting time	ms	LoadChange 10...90%		0.30	
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		15	
Softstart ramp up time	ms	IoNom		10	

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### MECHANICAL parameter

parameter	unit	
Overall dimensions	mm	90x90x25
Weight	g	380

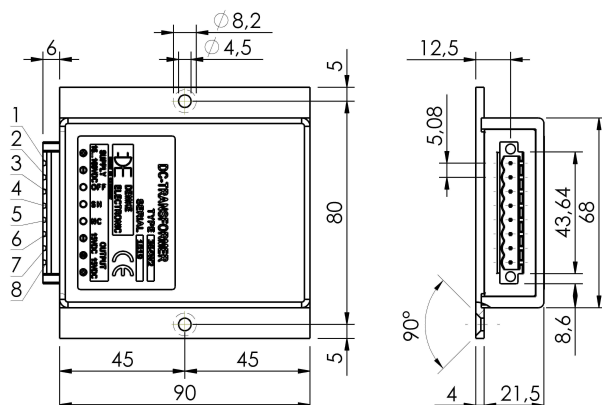
Pin No.	Function	Electrical Determination
1	Vi+	Input voltage positive
2	Vi-	Input voltage negative
3	SD	Shut down
4	SH	Switch high
6	Vo-	Output voltage negative
7	GO	Output voltage common
8	Vo+	Output voltage positive

### Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: CC 2,5/8-GF-5,08 P26THR

Case: FMC 90x90x26



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