TECHNICAL DATASHEET

343L-12-SD

60 Watt, isolated, single output buck-boost converter

All parameters defined on Ta=25°C, IoNom = 5.0 ADC and UiNom = 24VDC

ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	63.00

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)		✓		
Shutdown voltage for transformer	VDC		IoNom	-0.3 to 2.8

SPECIALS

parameter	unit	fulfilled	conditions	typ
Switching frequency	kHz			142
Efficiency at medium loads	%		0.5IoNom	90.30
Efficiency at full loads	%		IoNom	89.50
For active loads or parallel connection		✓		
Drives high capacitive loads		✓		
CC/CV battery load characteristic		✓		
Insulation strength primary to secondary	VDC			500
Insulation strength primary to case	VDC			500

COMPLIANCE

parameter	fulfilled	notes
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)	✓	
61000-6-4 (EMC – Emission standard for industrial environment)	✓	
55022<A	✓	
50155	✓	

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INPUT

parameter	unit	conditions	min	typ	max
Input voltage range	VDC	IoNom	9	24	60
No load input current	mA	UiNom		29	
Input start up voltage	VDC	UiNom		8.8	
Undervoltage lockout	VDC	UiNom		6.5	
Input current overshoot during soft start ramp up	%	IoNom		80	
Generated AC-ripple on the supply (BW=20MHz)	mVp-p	UiNom/IoNom		95	
Generated HF-noise on the supply (BW=20MHz)	mVp-p	UiNom/IoNom		30	
Typical input noise slew rate (BW=500MHz)	mVp-p	UiNom/IoNom		625	

OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		12.0	
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/IoNom		10	
Generated HF-noise on the output (BW=20MHz)	mVp-p	UiNom/IoNom		160	
Typical output noise slew rate (BW=500MHz)	mVp-p	UiNom/IoNom		35	
Output voltage accuracy	%	IoNom		+/-2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			60	

CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin...UiMax		0.10	
Static load regulation	%	IoMin...IoMax/UiNom		1.7	
Dynamic load change adjusting time	ms	LoadChange 10...90%		0.90	
Dynamic load change deviation to nominal output voltage	V	LoadChange 10...90%		0.01	
Maximum admissible capacitive load	uF	IoNom		infinite	
Initial switch on time	ms	IoNom		10	
Softstart ramp up time	ms	IoNom		5	

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MECHANICAL

parameter	unit	
Overall dimensions	mm	77x52x19
Weight	g	170

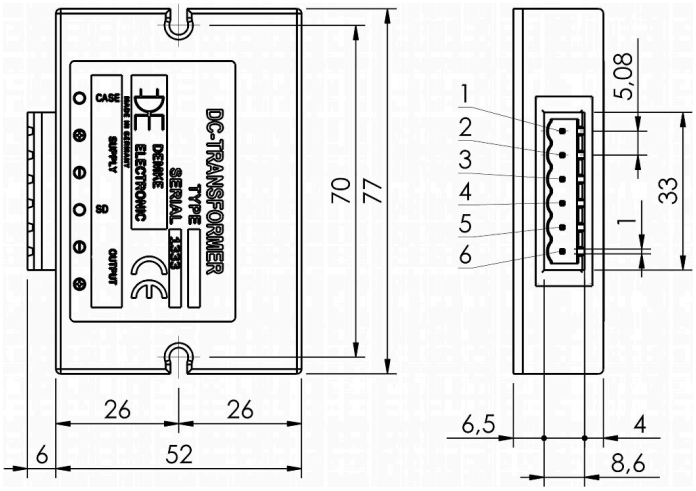
Pin No.	Function	Electrical Determination
1	C	Case
2	Vi+	Input voltage positive
3	Vi-	Input voltage negative
4	SD	Shut down
5	Vo-	Output voltage negative
6	Vo+	Output voltage positive

Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: CCA 2,5/6-G-5,08 P26THR

Case: FMC 77x52x19



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