

## 412-5.1

11 Watt, isolated, single output forward converter

All parameters defined on  $T_a=25^{\circ}\text{C}$ ,  $I_{oNom} = 2.2 \text{ ADC}$  and  $U_{iNom} = 24\text{VDC}$

### ABSOLUTE MAXIMUM RATINGS

parameter	unit	typ
Input peak voltage	VDC	40.00

### 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		200
Efficiency at medium loads	%	$0.5I_{oNom}$	85.50
Efficiency at full loads	%	$I_{oNom}$	85.50
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	✓	

All technical and general information is provided in all conscience. However, completeness and accuracy cannot be guaranteed. Demke recommends to fully test the product in its determined application. Due to permanent improvements to our products, we reserve the right to change specifications at any time and without prior notification and without obligation to update products already supplied. This is a component for professional equipment manufacturers. Read the safety and installation instruction for proper use. Safety aspect and EMC-aspect must be considered in the end application.

## 412-5.1

11 Watt, isolated, single output forward converter

### INPUT

parameter	unit	conditions	min	typ	max
Input voltage range	VDC	IoNom	9	24	36
No load input current	mA	UiNom		10	
Max. input current	A	UiNom		2	
Input start up voltage	VDC	UiNom		9.0	
Undervoltage lockout	VDC	UiNom		8.1	
Input quiescent current in shutdown mode	mA	UiNom		1.60	
Input current overshoot during soft start ramp up	%	IoNom		87	
Generated AC-ripple on the supply (BW=20MHz)	mVp-p	UiNom/loNom		65	
Generated HF-noise on the supply (BW=20MHz)	mVp-p	UiNom/loNom		70	
Typical input noise slew rate (BW=500MHz)	mVp-p	UiNom/loNom		42	

### OUTPUT

parameter	unit	conditions	min	typ	max
Output voltage	VDC	IoNom		5.1	
Minimum required load to obtain the specified output voltage	%	UiNom		0	
Generated AC-ripple on the output (BW=20MHz)	mVp-p	UiNom/loNom		25	
Generated HF-noise on the output (BW=20MHz)	mVp-p	UiNom/loNom		100	
Typical output noise slew rate (BW=500MHz)	mVp-p	UiNom/loNom		70	
Output voltage accuracy	%	IoNom		+/-2.00%	
Output voltage overshoot at initial switch-on	%	IoNom		overdamped	
Rated output power	W			11	

### CONTROL

parameter	unit	conditions	min	typ	max
Static line regulation	%	IoNom/UiMin...UiMax		0.05	
Static load regulation	%	IoMin...IoMax/UiNom		0.2	
Dynamic load change adjusting time	ms	LoadChange 10...90%		0.60	
Dynamic load change deviation to nominal output voltage	V	LoadChange 10...90%		0.20	
Maximum admissible capacitive load	uF	IoNom		6800	
Initial switch on time	ms	IoNom		9	
Softstart ramp up time	ms	IoNom		6	

All technical and general information is provided in all conscience. However, completeness and accuracy cannot be guaranteed. Demke recommends to fully test the product in its determined application. Due to permanent improvements to our products, we reserve the right to change specifications at any time and without prior notification and without obligation to update products already supplied. This is a component for professional equipment manufacturers. Read the safety and installation instruction for proper use. Safety aspect and EMC-aspect must be considered in the end application.

## 412-5.1

11 Watt, isolated, single output forward converter

### MECHANICAL parameter

parameter	unit	
Overall dimensions	mm	50x25x11
Weight	g	28

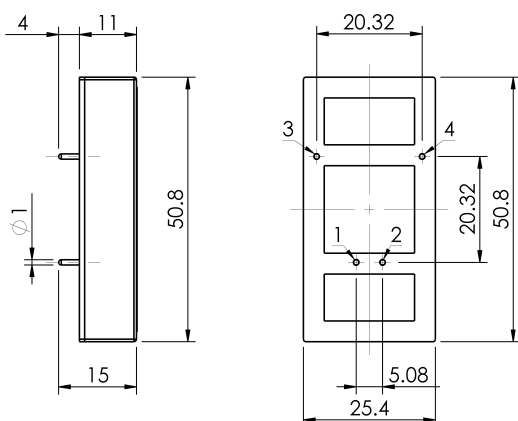
Pin No.	Function	Electrical Determination
1	Vi+	Input voltage positive
2	Vi-	Input voltage negative
3	Vo+	Output voltage positive
4	Vo-	Output voltage negative

### Mechanical dimensions and Pin configuration

All dimensions in mm

Connector type: THT

Case: 1"x2"



All technical and general information is provided in all conscience. However, completeness and accuracy cannot be guaranteed. Demke recommends to fully test the product in its determined application. Due to permanent improvements to our products, we reserve the right to change specifications at any time and without prior notification and without obligation to update products already supplied. This is a component for professional equipment manufacturers. Read the safety and installation instruction for proper use. Safety aspect and EMC-aspect must be considered in the end application.