

**EOL**

## DC/DC Regulator SRL 1A Series

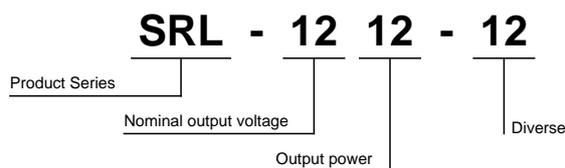


- \* DC/DC module without galvanic separation
- \* High efficiency
- \* Short circuit proof
- \* Fast action feed-back module
- \* No derating up to 75°C ambient temperature
- \* Very low output ripple
- \* Low silhouette
- \* EMC according to EN55022/11 Class B

### Product Range

Model	Input		I <sub>in</sub> @ U <sub>in</sub> nom.		U <sub>out</sub>	Output I <sub>out</sub> max.	Output power	Efficiency typ.	Max. capacity
	nominal	range	full load	no load					
<b>Single</b>									
SRL3303-12	24Vdc	4.8...40VDC		10mA	3.3Vdc	1000mA	3.3W	75%	
SRL5005-12	24Vdc	4.8...40VDC		10mA	5.1Vdc	1000mA	5W	82%	
SR1212-12	24Vdc	14...40VDC		10mA	12Vdc	1000mA	12W	88%	
SR1515-12	24Vdc	17...40VDC		10mA	15Vdc	1000mA	15W	90%	

# Nomenclature



## Specifications

All values refer to an ambient temperature of 25°C and nominal rated values where nothing else is specified.

### Input Specifications

Characteristic		Conditions	min	typ	max	unit
$U_{IN}$	Input voltage		4.8/7/14/17	24	40	Vdc
$U_{UVLO}$	Under voltage lockout					Vdc
	Max. input current at full load					A
	No load input current		See	product	range	mA
	Inrush current					A <sup>2</sup> s
	Input surge voltage					Vdc

### Output Specifications

Characteristic		Conditions	min	typ	max	unit
$U_{ACC}$	Output voltage accuracy			±2		%
	Output voltage adjust					%
	Line regulation				±2	%
	Load regulation				±1.5	%
	Cross regulation					%
	Load transient recovery time					us
	Load transient error band					%
	Temperature coefficient					%/K
	Ramp up time					ms
	Start up time					ms
	Ripple and noise			max. 60		mVpp
	Current limit					% Inom
	Over voltage protection					% Unom
	Short circuit protection					% Inom
	Short circuit characteristic			continuous		

## General Specifications

Characteristic		Conditions	min	typ	max	unit
U <sub>ISO</sub>	Isolation voltage					
R <sub>ISO</sub>	Isolation resistance					Ohm
C <sub>ISO</sub>	Isolation capacity					pF
F <sub>SW</sub>	Switching frequency			52		kHz
	Approvals					
	Safety Approvals					
	MTBF			>1'000'000		h
	Case material			Plastic UL94-V0		
	Compound material			Two component resin UL94-V0		
	PCB material			FR4 UL94-V0		
	Weight			17		gr
	Dimensions			32.0 x 20.0 x 12.0		mm
	Soldering infos			275°C for 10		s

## EMC Specifications

Characteristic		Conditions	
	EMC conducted	See EMC information	EN55022/11 Class B

## Environmental Specifications

Characteristic		Conditions	min	typ	max	unit
T <sub>AMB</sub>	Operation temperature			-40...+75		°C
T <sub>AMB</sub>	Storage temperature					°C
T <sub>SD</sub>	Thermal shutdown range			T <sub>case</sub> = 100		°C

## Own notes

# EMC information

EMC emissions conducted, EN55022/11 Class B, Example:

## EMC-TESTCENTER ACCR. EN45001

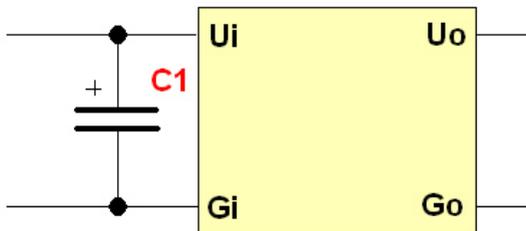
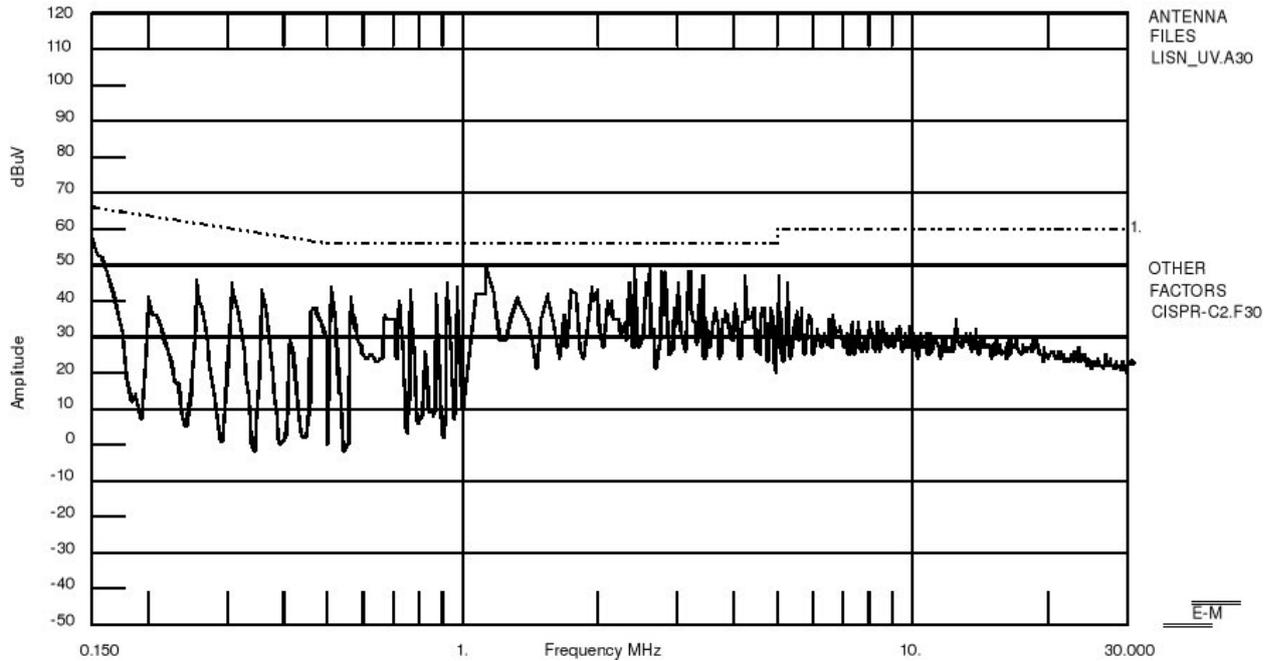
FABRIMEX AG

Date : 02/17/99 Time : 14:08:31.97  
Technician : U. Luessi Test Equip. : EMC-30MK4  
Test Method : Conducted Emission Test Number : 1  
Equipment : SRL 5005-12 Sensor Loc. :  
Mode of Op. : Nominal Conditions Sensor Pol. :  
Serial No. : 712526 Ext. Atten. : 0 dB

EMC-30 SETTINGS  
Detector QuasiPeak  
Bandwidth CISPR  
Dwell N/A  
RF Atten. 0 dB  
IF Atten. 0 dB

SPECS  
1) EN 55022/11 CLASS B / QuasiPeak

Comment : Input Capacitor 100uF



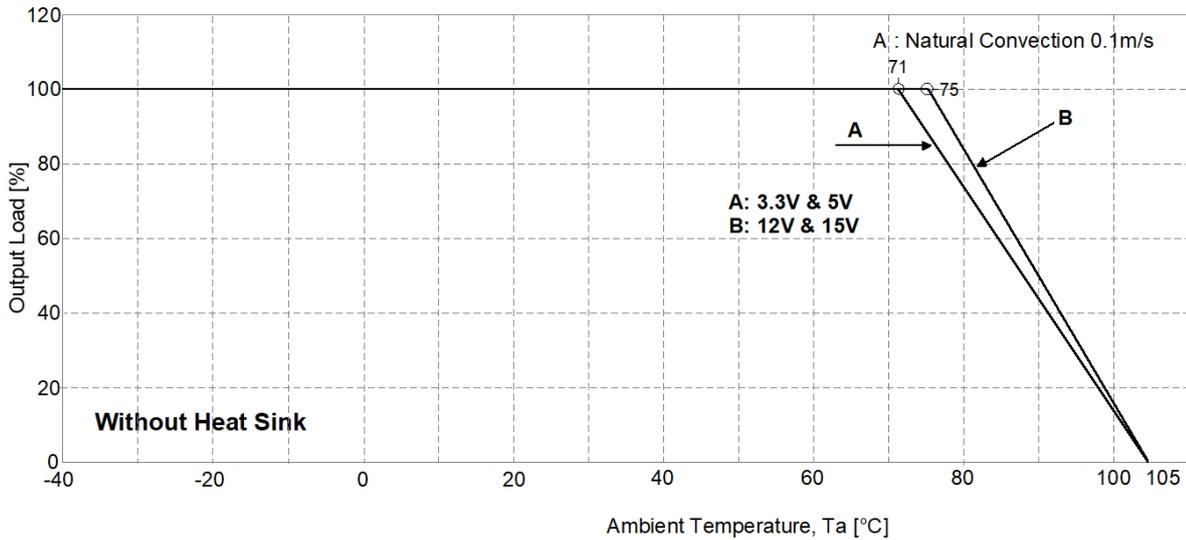
This was achieved with the following filter:

V<sub>in</sub> = 24V

C1 = 100uF

# Derating

The operating case temperature range of SRL 1A series is -40...+75°C. When operating the SRL 1A series, proper derating or cooling is needed. The following curves are the derating curves of SRL 1A. Please note that these are relative values in a test environment. Ambient temperature can not be exactly defined in an application, only the case temperature. Please ask the factory for a suitable heat sink.



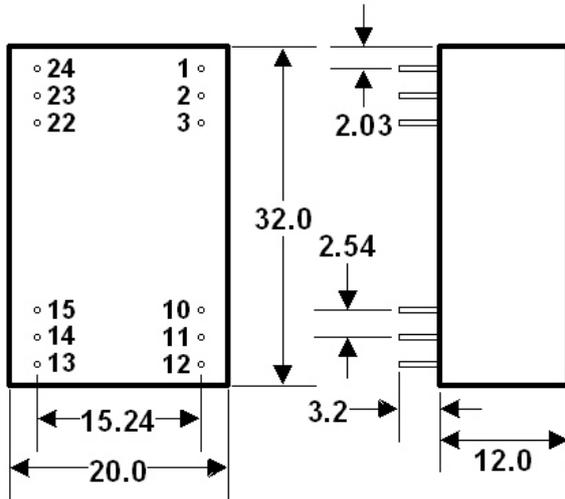
## Own notes

# Case

Normal tolerance 1/10  $\pm 0.5$  mm, 1/100  $\pm 0.25$  mm; Pin tolerance  $\pm 0.05$  mm diameter

NP = No pin, NC = Not connected, NA = Not available for electrical contact, do not connect, (opt) = optional

## BOTTOM VIEW SIDE VIEW



Pin	Single
1	Vi
2	NC
3	NC
10	Go
11	+Vo
12	Gi
13	Gi
14	+Vo
15	Go
22	NC
23	NC
24	Vi

# Cleaning

The modules are cleanable with the today's known and in the electronics industry usually used products. Due to the different cleaning processes and new available products, we highly recommend to do a compatibility test when using the converters the first time.

Notice: All statements, technical information, and recommendations related to FABRIMEX's products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use.

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The logo for EXISTA, featuring the word "EXISTA" in a bold, blue, sans-serif font. The letter "E" is stylized with a horizontal bar that extends to the left and then curves back to the right, creating a unique graphic element.