

DC/DC Converter SC 01 Series



DC/DC unregulated converter modules - SIL & SMD (Input 5V, 12V & 24V) pinning - 1s short circuit proof - 1000Vdc & 4000Vdc (on request) isolation voltage - UL 94V-0 package material

DC/DC Wandler unreguliert - SIL & SMD (Input 5V, 12V & 24V) pinning - 1s kurzschlussfest - 1000Vdc & 4000Vdc (auf Anfrage) Isolationsspannung - UL 94V-0 Gehäusematerial und Vergussmasse

Convertisseur DC/DC non régulé - Brochage SIL & SMD (Input 5V, 12V & 24V) - Résistant 1s au court-circuit - 1000Vdc & 4000Vdc (sur demande) Isolation - Matériaux de boîtier et masse de remplissage conformes UL 94V-0

Product Range

Typenübersicht

Sommaire des types

Model	Input nominal	Input range	Input current @ Uin nom.		Uout	Output lout max.	power	Efficiency typ.
			full load	no load				
Single								
SC05-0501NS	5VDC	4.5...5.5VDC	250mA	40mA	5.0VDC	200mA	1.0W	79%
SC05-1201NS	5VDC	4.5...5.5VDC	252mA	40mA	12VDC	84mA	1.0W	79%
SC05-1501NS	5VDC	4.5...5.5VDC	248mA	40mA	15VDC	67mA	1.0W	79%
SC12-0501NS	12VDC	10.8...13.2VDC	103mA	15mA	5.0VDC	200mA	1.0W	80%
SC12-1201NS	12VDC	10.8...13.2VDC	104mA	15mA	12VDC	84mA	1.0W	81%
SC12-1501NS	12VDC	10.8...13.2VDC	102mA	15mA	15VDC	67mA	1.0W	81%
SC24-0501NS	24VDC	21.6...26.4VDC	52mA	7mA	5.0VDC	200mA	1.0W	80%
SC24-1201NS	24VDC	21.6...26.4VDC	51mA	7mA	12VDC	84mA	1.0W	83%
SC24-1501NS	24VDC	21.6...26.4VDC	52mA	7mA	15VDC	67mA	1.0W	81%

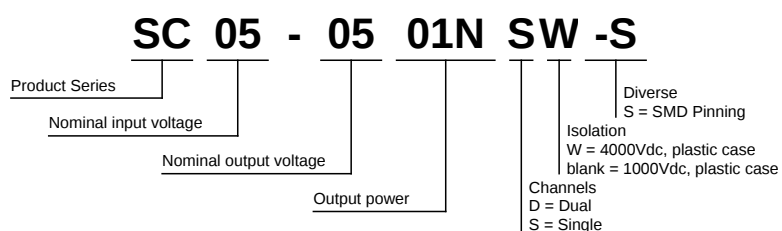
Dual

SC05-0501ND	5VDC	4.5...5.5VDC	267mA	40mA	+5.0VDC -5.0VDC	+100mA -100mA	0.5W 0.5W	74%
SC05-1201ND	5VDC	4.5...5.5VDC	255mA	40mA	+12VDC -12VDC	+42mA -42mA	0.5W 0.5W	78%
SC05-1501ND	5VDC	4.5...5.5VDC	251mA	40mA	+15VDC -15VDC	+33mA -33mA	0.5W 0.5W	78%
SC12-0501ND	12VDC	10.8...13.2VDC	111mA	15mA	+5.0VDC -5.0VDC	+100mA -100mA	0.5W 0.5W	77%
SC12-1201ND	12VDC	10.8...13.2VDC	105mA	15mA	+12VDC -12VDC	+42mA -42mA	0.5W 0.5W	80%
SC12-1501ND	12VDC	10.8...13.2VDC	103mA	15mA	+15VDC -15VDC	+33mA -33mA	0.5W 0.5W	81%
SC24-0501ND	24VDC	21.6...26.4VDC	53mA	7mA	+5.0VDC -5.0VDC	+100mA -100mA	0.5W 0.5W	79%
SC24-1201ND	24VDC	21.6...26.4VDC	52mA	7mA	+12VDC -12VDC	+42mA -42mA	0.5W 0.5W	81%
SC24-1501ND	24VDC	21.6...26.4VDC	53mA	7mA	+15VDC -15VDC	+33mA -33mA	0.5W 0.5W	82%

Nomenclature

Nomenklatur

Nomenclature



Specifications

Spezifikationen

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		-10%	5 / 12 / 24	+10%	V
U_{UVLO} Under voltage lockout					V
Max. input current at full load		See	product	range	A
No load input current		See	product	range	mA

Output Specifications

Characteristic	Conditions	min	typ	max	unit
U_{ACC} Output voltage accuracy		±3			%
Output voltage adjust					%
Line regulation				±1.2	%
Load regulation	25% / 100% step load change			±10	%
Load transient recovery time					us
Load transient error band					%
Temperature coefficient			±0.05		%/K
Ramp up time					ms
Start up time					ms

	Ripple and noise	BW = 20MHz	SIP: 75 / SMD: 120			mVpp
	Current limit					%
	Over voltage protection					%
	Short circuit protection					%
	Short circuit characteristic		Momentary 1s			

General Specifications

Characteristic		Conditions	min	typ	max	unit
U _{ISO}	Isolation voltage	in/out, in/case, out/case	1000 or 4000(on request)			V
R _{ISO}	Isolation resistance		10G			Ohm
R _{ISO}	Switching frequency	Fixed	100 / 24Vin: 75			kHz
	Approvals					
	Safety Approvals					
	MTBF	MIL-STD-217-F, GB, 25°C	1.5M			h
	Case material		non-conductive black plastic			
	Compound material					
	PCB material					
	Weight		1.8 / 24Vin: 2.7			gr
	Dimensions		See Page 6 & 7			mm
	Soldering infos		275°C for 10			s

EMC Specifications

Characteristic		Conditions	min	typ	max	unit
	EMC conducted	See EMC information	EN55022/11 Class B			

Environmental Specifications

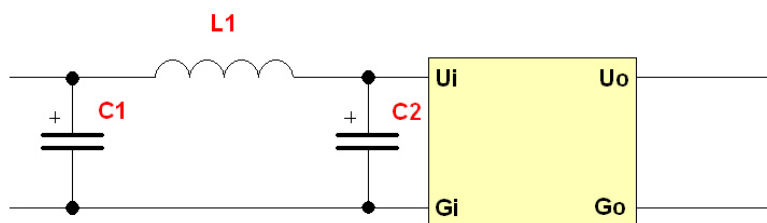
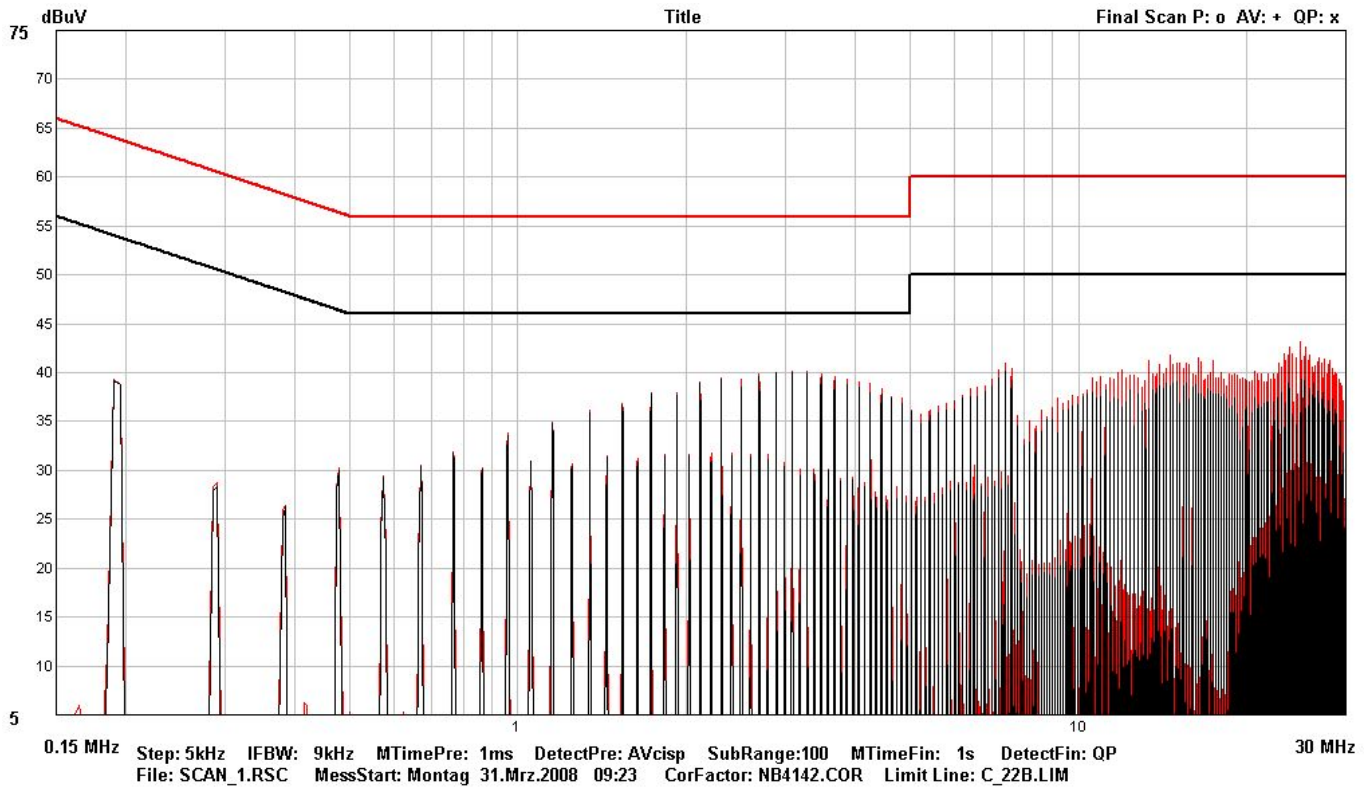
Characteristic		Conditions	min	typ	max	unit
T _{CASE}	Operation temperature		-40...+85			°C
T _{AMB}	Storage temperature		-55...+125			°C
T _{SD}	Thermal shutdown range		Tcase = 100			°C

Own notes

Eigene Notizen

Vos notices

EMC emissions conducted, EN55022/11 Class B, Example: EC05-0501NS-S



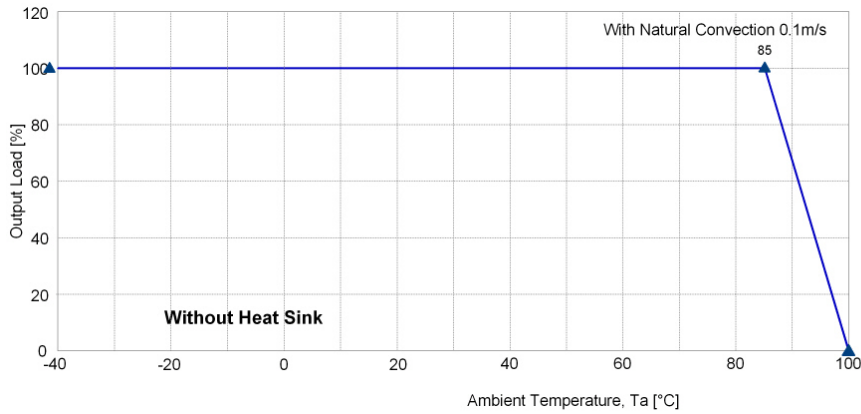
This was achieved with the following filter:

C1 4.7uF/25V Ceramic

C2 4.7uF/25V Ceramic

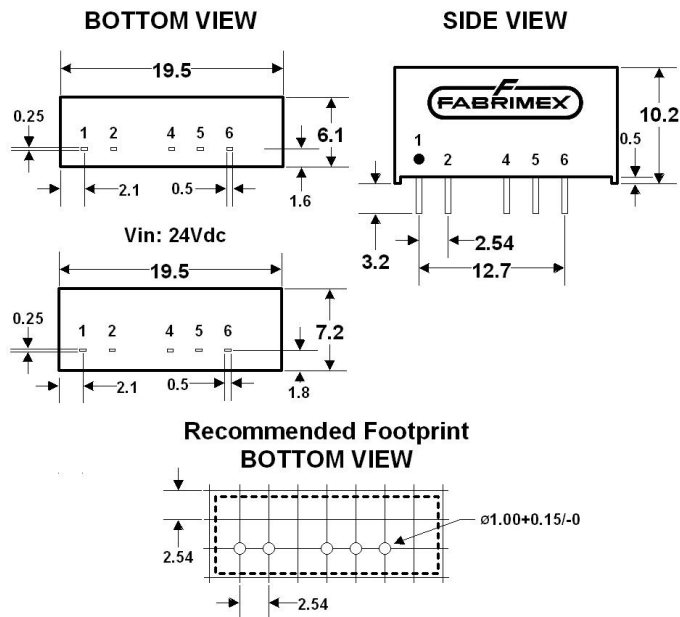
L1 10uH

The operating case temperature range of SC 01 series is -40...+85°C. When operating the SC 01 series, proper derating or cooling is needed. The following curves are the derating curves of SC 01. 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.



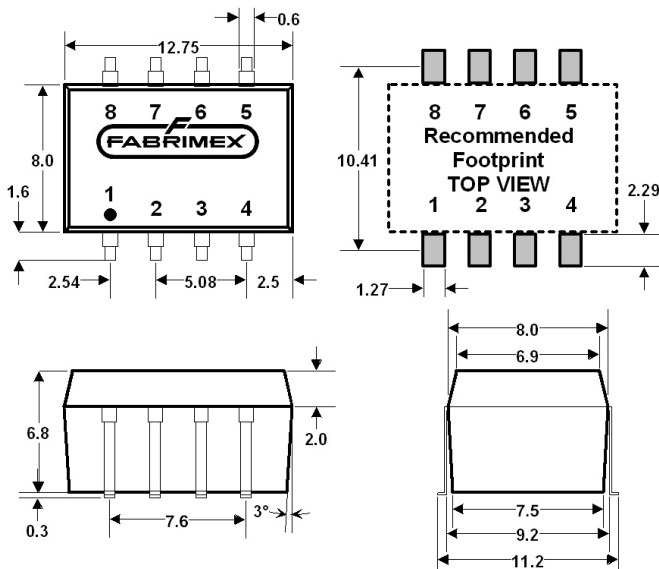
Normal tolerance 1/10 ± 0.5 mm, 1/100 ± 0.25 mm; Pin tolerance ± 0.5 mm diameter

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



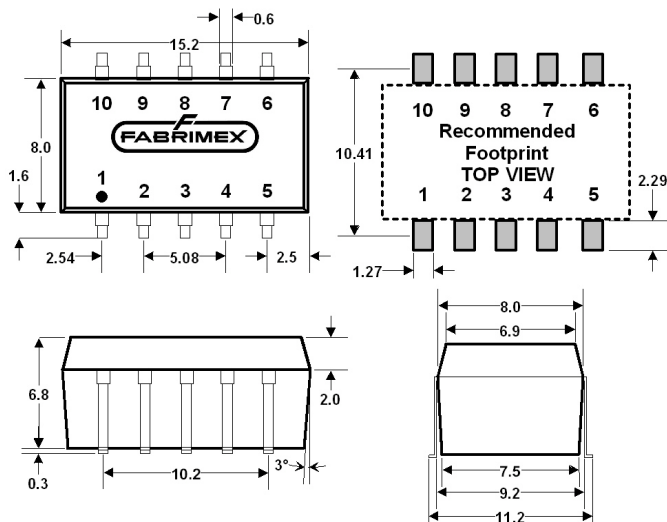
Pin	Single	Dual	Pin
1	+Vi	+Vi	1
2	-Vi	-Vi	2
4	-Vo	-Vo	4
5	NP	Com	5
6	+Vo	+Vo	6

SMD PACKAGE SINGLE OUTPUT



Pin	Single
1	-Vi
2	+Vi
3	NP
4	-Vo
5	+Vo
6	NP
7	NP
8	NA

SMD PACKAGE DUAL OUTPUT



Pin	Dual
1	-Vi
2	+Vi
3	NP
4	Com
5	-Vo
6	NP
7	+Vo
8	NP
9	NP
10	NA

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.

Waschen

Die Module sind waschbar mit den heute bekannten und in der Elektronikindustrie üblichen Reinigungsmitteln. Bedingt durch die verschiedenen Reinigungsprozesse und neu auf den Markt kommende Mittel, raten wir dringend beim Ersteinsatz der Konverter eine Verträglichkeitsprüfung vorzunehmen.

Lavage

Les modules sont lavables avec les solvants couramment utilisés dans l'industrie électronique. Dû aux différents processus de lavage et aux nouveaux détergents disponibles sur le marché, il est strictement recommandé de faire un test de compatibilité avant la première utilisation.

Own notes

Eigene Notizen

Vos notices

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.

Switzerland:
FABRIMEX AG - Techcenterstr. 2
CH-8608 Bubikon
Tel: +41 55 253 31 90 - Fax: +41 55 253 31 91
Internet: www.fabrimex.com

FABRIMEX
POWER SUPPLIES

Germany:
CAC FABRIMEX GmbH - D-89543 Gerstetten
Tel: 07323/ 95000 - Fax: 07323/ 95050