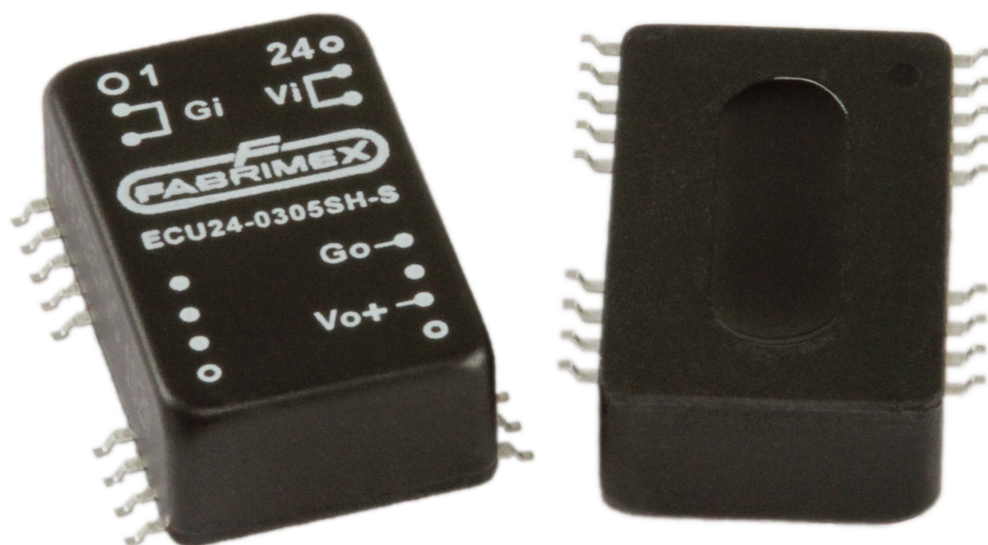


DC/DC Ultra Wide Input Converter ECU 05-S Series



DC/DC converter modules with input to output isolation of 1500 or 3000 VDC - Pi-filter at input - Continuous short circuit proof - High efficiency - No derating up to 71°C - Low output ripple and noise - Low silhouette - Metal case with non conductive base plate, six sides shielded or non conductive plastic case - SMD mounting available

DC/DC Konverter-Modul mit galvanischer Trennung Eingang / Ausgang von 1500 oder 3000 VDC - Pi-Filter am Eingang - Dauerkurzschlussfest - Hoher Wirkungsgrad - Keine Lastminderung bis zu einer Umgebungstemperatur von 71°C - Gute Werte von Ripple und Noise - Geringe Bauhöhe - Metallgehäuse mit isolierender Bodenplatte, 6seitig abgeschirmt oder nicht leitendes Plastikgehäuse - SMD Montage verfügbar

Module convertisseur CC/CC avec séparation galvanique entrée sortie 1500 ou 3000 VDC - Filtre en Pi à l'entrée - Protection courts-circuits permanente - Rendement élevé - Pas de dérive jusqu'à 71°C - Ondulation résiduelle de sortie très faible - Profile bas - Boîtier en métal blindé 6 faces avec fond isolé ou boîtier en plastique - Montage CMS disponible

Product Range

Typenübersicht

Sommaire des types

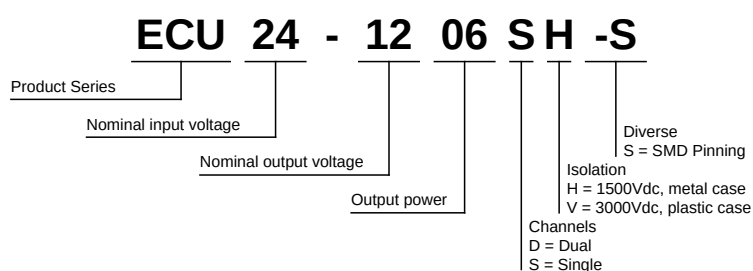
Model	Input		Input current @ Uin nom.		Uout	Output Iout max.	power	Efficiency typ.
	nominal	range	full load	no load				
Single								
ECU24-0305SH-S	24VDC	9...36VDC	191mA	15mA	3.3VDC	1000mA	3.3W	72%
ECU24-0505SH-S	24VDC	9...36VDC	267mA	15mA	5.0VDC	1000mA	5W	78%
ECU24-1206SH-S	24VDC	9...36VDC	294mA	15mA	12VDC	470mA	6W	80%
ECU24-1506SH-S	24VDC	9...36VDC	313mA	15mA	15VDC	400mA	6W	80%
ECU48-0305SH-S	48VDC	18...72VDC	100mA	7.5mA	3.3VDC	1000mA	3.3W	70%

ECU48-0505SH-S	48VDC	18...72VDC	134mA	7.5mA	5.0VDC	1000mA	5W	78%
ECU48-1206SH-S	48VDC	18...72VDC	149mA	7.5mA	12VDC	470mA	6W	79%
ECU48-1506SH-S	48VDC	18...72VDC	157mA	7.5mA	15VDC	400mA	6W	80%
Dual								
ECU24-0505DH-S	24VDC	9...36VDC	267mA	25mA	+5.0VDC -5.0VDC	+500mA -500mA	2.5W 2.5W	78%
ECU24-1206DH-S	24VDC	9...36VDC	288mA	25mA	+12VDC -12VDC	+230mA -230mA	2.76W 2.76W	80%
ECU24-1506DH-S	24VDC	9...36VDC	297mA	25mA	+15VDC -15VDC	+190mA -190mA	2.85W 2.85W	80%
ECU48-0505DH-S	48VDC	18...72VDC	135mA	12mA	+5.0VDC -5.0VDC	+500mA -500mA	2.5W 2.5W	77%
ECU48-1206DH-S	48VDC	18...72VDC	146mA	12mA	+12VDC -12VDC	+230mA -230mA	2.76W 2.76W	79%
ECU48-1506DH-S	48VDC	18...72VDC	149mA	12mA	+15VDC -15VDC	+190mA -190mA	2.85W 2.85W	80%

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		9 / 18	24 / 48	36 / 72	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		± 2			%
Output voltage adjust					%
Line regulation	Single / Dual			± 0.5	%
Load regulation	Single / Dual			$\pm 0.5 / \pm 1.0$	%
Load transient recovery time					μ s
Load transient error band					%
Temperature coefficient			± 0.05		%/K
Ramp up time					ms
Start up time					ms

	Ripple and noise	BW = 20MHz	3.3V/5V: 100, 12V/15V: 1%			mVpp
	Current limit					%
	Over voltage protection					%
	Short circuit protection					%
	Short circuit characteristic		continuous			

General Specifications

Characteristic		Conditions	min	typ	max	unit
U _{ISO}	Isolation voltage	in/out, in/case, out/case	1500 or 3000			V
R _{ISO}	Isolation resistance		> 1G			Ohm
R _{ISO}	Switching frequency		typ. 200			kHz
	Approvals					
	Safety Approvals					
	MTBF					h
	Case material		Black Coated Copper or Plastic			
	Compound material					
	PCB material					
	Weight		12.5			gr
	Dimensions		31.8 x 20.3 x 11.4			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

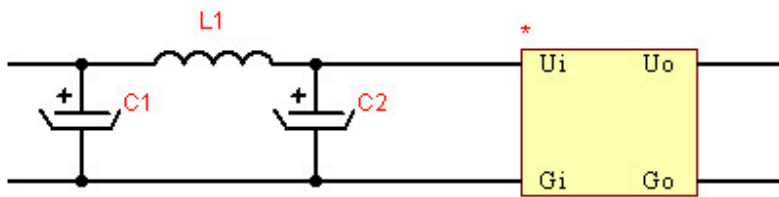
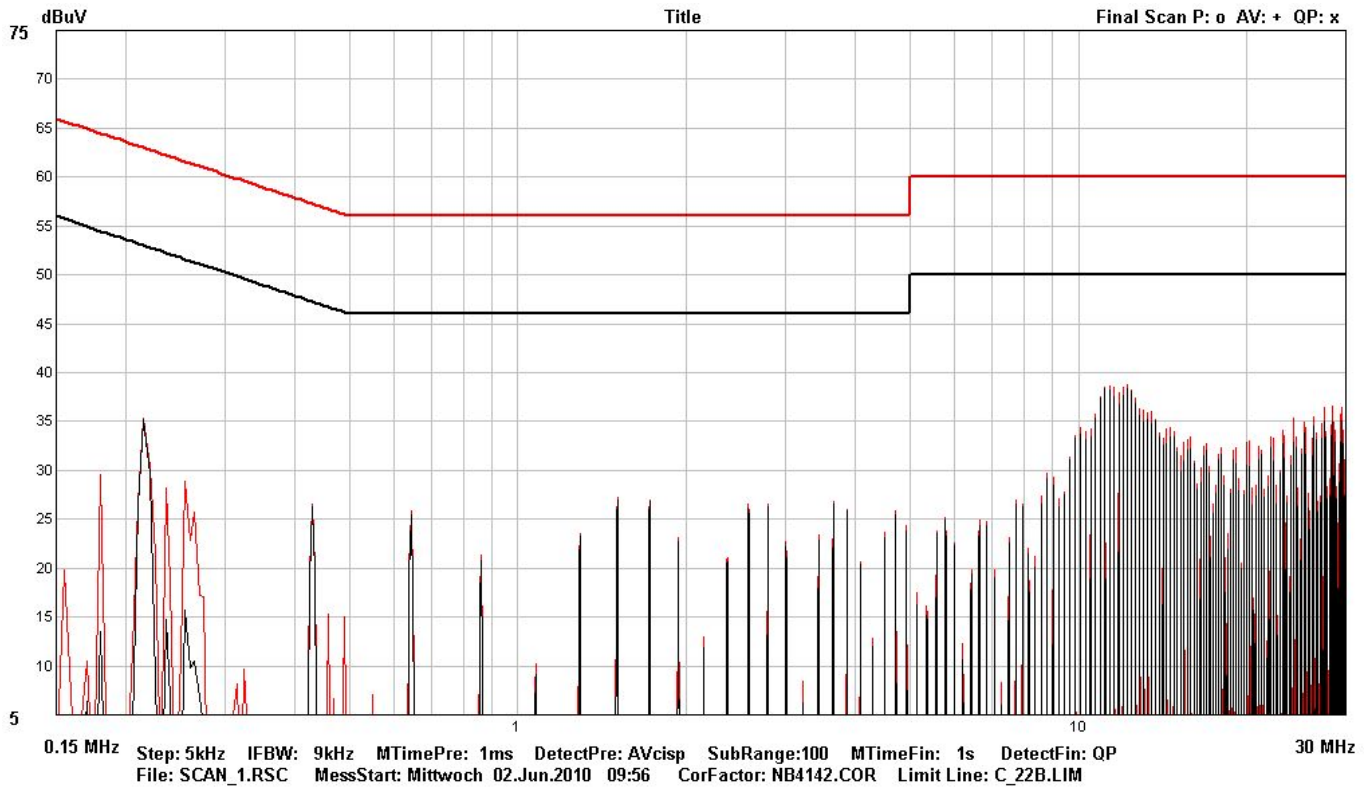
Characteristic		Conditions	min	typ	max	unit
T _{CASE}	Operation temperature		-25...+71			°C
T _{AMB}	Storage temperature		-40...+100			°C
T _{SD}	Thermal shutdown range		Copper = 100 / Plastic = 95			°C

Own notes

Eigene Notizen

Vos notices

EMC emissions conducted, EN55022/11 Class B, Example: ECU24-1206



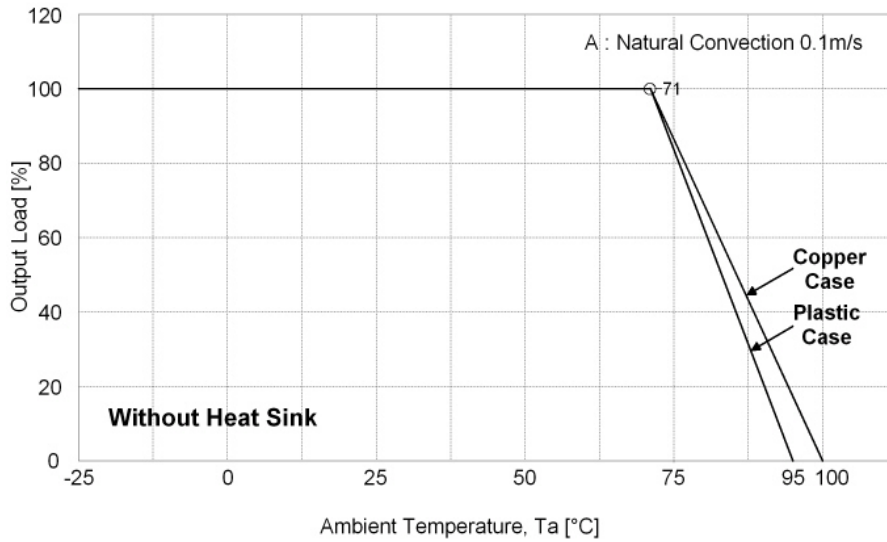
This was achieved with the following filter:

C1 10uF/50V Epcos B45197-A7106

C2 10uF/50V Epcos B45197-A7106

L1 10uH / 1.2A Coilcraft DS1608C-103

The operating case temperature range of ECU 05-S series is -25...+71°C. When operating the ECU 05-S series, proper derating or cooling is needed. The following curves are the derating curves of ECU 05-S. 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.



Case

Gehäuse

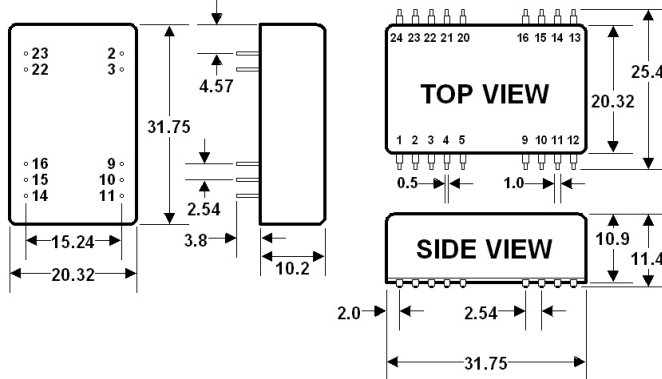
Boîtier

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

1500V or 3000V THD & SMD

BOTTOM VIEW SIDE VIEW



Pin	Single	Dual	Pin
2	Gi	Gi	2
3	Gi	Gi	3
9	NC	Go	9
10	NC	NC	10
11	NC	-Vo	11
14	+Vo	+Vo	14
15	NC	NC	15
16	Go	Go	16
22	Vi	Vi	22
23	Vi	Vi	23

Cleaning

Waschen

Lavage

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.

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.

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.

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