

Unregulated SIL DC/DC Converters

FB-Series 1 Watt, Single / Dual Output



- DC/DC unregulated converter modules
- Industry standard pinning
- 1s short circuit proof
- 1kVdc and 2kVdc isolation voltage
- UL 94V-0 package material
- DC/DC Wandler unreguliert
- Industriestandard pinning
- 1s kurzschlussfest
- 1kVdc und 2kVdc galvanische Trennung
- UL 94V-0 Gehäusematerial und Vergussmasse
- Convertisseur DC/DC non régulé
- Brochage standard industriel
- Résistant 1s au court-circuit
- Isolation galvanique 1kVdc et 2kVdc
- Matériaux de boîtier et masse de remplissage conformes UL 94V-0

Product range

Typenübersicht

Sommaire des types

PART NUMBER	PINNING	INPUT VOLTAGE		OUTPUT		EFFICIENCY
		Nominal	Range	Voltage	Current	Typical
FB(xx)-1V8SM*	SIL-7	1.8, 3.3, 5, 9, 12, 15, 24 VDC	±10%	1.8 VDC	555 mA	70%
FB(xx)-3V3SM*			±10%	3.3 VDC	303 mA	75%
FB(xx)-05SM*			±10%	5 VDC	200 mA	70-78%
FB(xx)-09SM*			±10%	9 VDC	111 mA	70-78%
FB(xx)-12SM*			±10%	12 VDC	84 mA	78-82%
FB(xx)-15SM*			±10%	15 VDC	66 mA	80-84%
FB(xx)-24SM*			±10%	24 VDC	42 mA	74-85%
Dual Output						
FB(xx)-1V8DM*	SIL-7	1.8, 3.3, 5, 9, 12, 15, 24 VDC	±10%	±1.8 VDC	±278 mA	70%
FB(xx)-3V3DM*			±10%	±3.3 VDC	±152 mA	75%
FB(xx)-05DM*			±10%	±5 VDC	±100 mA	70-78%
FB(xx)-09DM*			±10%	±9 VDC	±56 mA	75-80%
FB(xx)-12DM*			±10%	±12 VDC	±42 mA	78-84%
FB(xx)-15DM*			±10%	±15 VDC	±33 mA	80-84%
FB(xx)-24DM*			±10%	±24 VDC	±21 mA	80-84%

* Standard Version:
Option: H instead of M
Ordering Example:

M = 1'000Vdc I/O isolation
H = 2'000Vdc I/O isolation
Substitute (xx) for 1V8, 3V3, 05, 09, 12, 15 or 24

FB 05 - 3V3 S M

Product Series

Nominal Input Voltage

Nominal Output Voltage
(3V3 = 3.3V)M = 1'000 Vdc isolation voltage
H = 2'000 Vdc isolation voltageS = Single Output Voltage
D = Dual Output Voltage

Specifications

Spezifikationen

Spécifications

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

INPUT SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
U_{in}	Input voltage	$T_A < T_{Amax}$	±10			% $U_{in nom}$
	Input filter		capacitor type			

OUTPUT SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
U_{acc}	Output voltage accuracy	of nominal output voltage			±5	% U_{out}
	Line regulation	$U_{in delta} = ((U_{in nom} - U_{in}) / U_{in nom}) \times 100$			±1.2x $U_{in delta}$	% U_{out}
	Load regulation see "Load Regulation", page 3	10% to 100% load, $U_{out} = 1.8, 3.3Vdc$			20	% U_{out}
		10% to 100% load, $U_{out} = 5Vdc$			15	
		10% to 100% load, $U_{out} = 9, 12, 15, 24V$			10	
U_{rn}	Output ripple & noise	Single output			100	mVpp
		Dual output			75	
	Output short circuit characteristic			$I_{out} > I_{nom}$		
	Output short circuit protection		1			sec

GENERAL SPECIFICATIONS

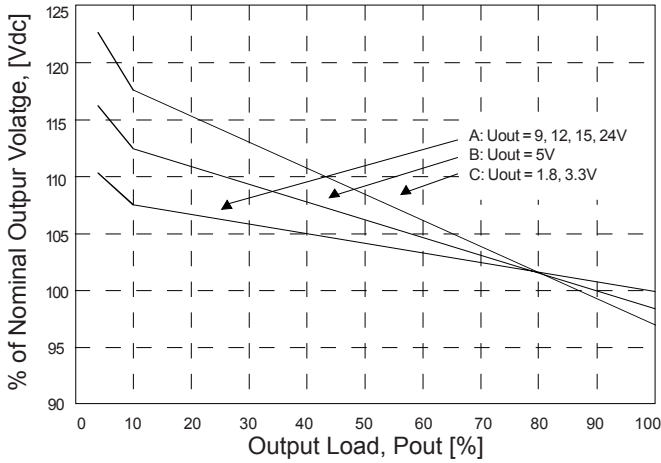
Characteristics		Conditions	min	typ	max	unit
U_{iso}	Isolation voltage	input/output (M-version)	1'000			Vdc
		input/output (option: H-version)	2'000			
R_{iso}	Isolation resistance	Input to output		10		GOhm
$C_{I/O}$	Input / output capacitance	Input to output	20		75	pF
f_s	Switching frequency	Fixed, at full load		100		kHz
	Case material		Plastic, UL 94V-0			
	Weight	SIL-7		2.2		g
	Dimensions	LxWxH, see "case" page 3	19.6 x 6 x 10.2			mm

ENVIRONMENTAL SPECIFICATIONS

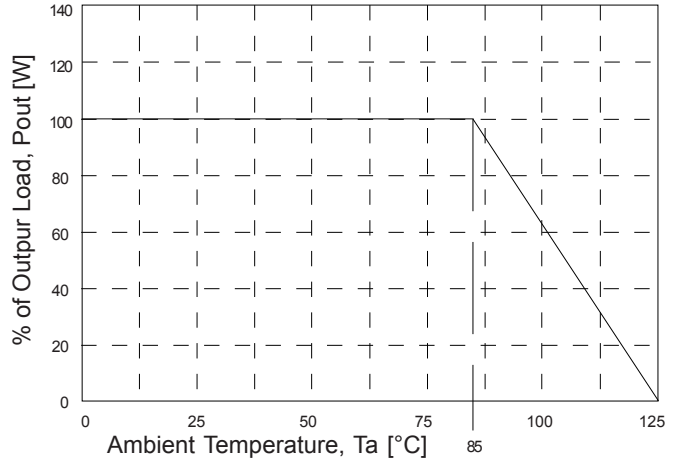
Characteristics		Conditions	min	typ	max	unit
T_A	Operating temperature	Ambient temperature, see also "Derating" page 3	-40		+85	°C
	Storage temperature	Ambient temperature	-55		+125	°C

Typical characteristics

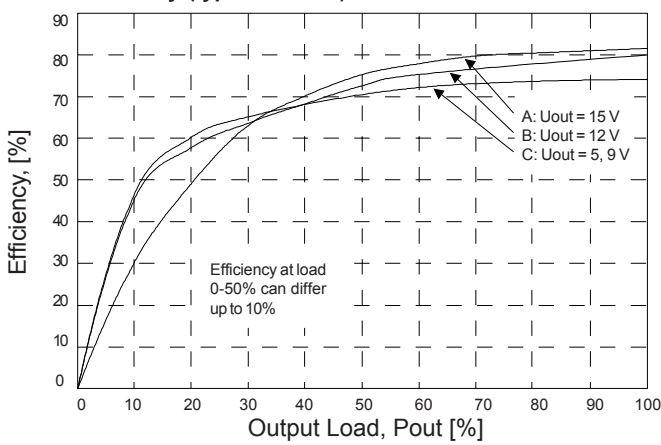
Load Regulation (typical values)



Derating



Efficiency (typical values)

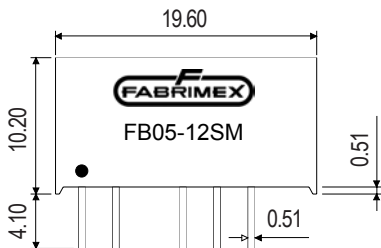


Case

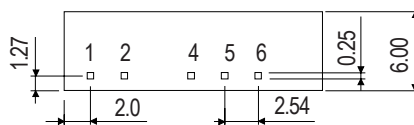
Gehäuse

Boîtier

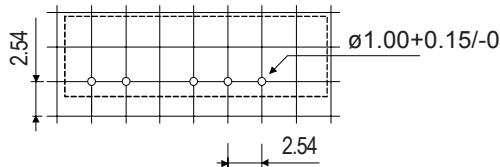
Normal tolerance 1/10 ±0.5 mm, 1/100 ±0.25 mm



Bottom View



Recommended Footprint, Bottom View



Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	NP	NP
4	NC	-Vout
5	-Vout	common
6	+Vout	+Vout

NP = No Pin
NC = No Connection

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:
FABRIMEXAG • Industriestrasse 4B • Volketswil
Post Address: P.O.Box • CH-8603 Schwerzenbach
Tel: +41-44-908 13 40 • Fax: +41-44-908 13 00
Internet: <http://www.fabrimex.com>



Germany:
CAC FABRIMEX GmbH • D-89543 Gerstetten
Tel: 07323/ 950-0 • Fax: 07323/ 95050

FABRIMEX

POWER SUPPLIES