

# Unregulated SIL DC/DC Converters

## FEZ-Series 2 Watt, Single 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
FEZ(xx)-3V3SM*	SIL-7	5, 9, 12, 15, 24 VDC	±10%	3.3 VDC	606 mA	70%
FEZ(xx)-05SM*			±10%	5 VDC	400 mA	75%
FEZ(xx)-09SM*			±10%	9 VDC	222 mA	75%
FEZ(xx)-12SM*			±10%	12 VDC	168 mA	78%
FEZ(xx)-15SM*			±10%	15 VDC	132 mA	80%
FEZ(xx)-24SM*			±10%	24 VDC	83 mA	80%

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

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

**FEZ 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 voltage**S** = Single 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, $U_{out} = 3.3Vdc$			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			150	mVpp
	Output short circuit characteristic			$I_{out} > I_{nom}$		
	Output short circuit protection		1			sec

**GENERAL SPECIFICATIONS**

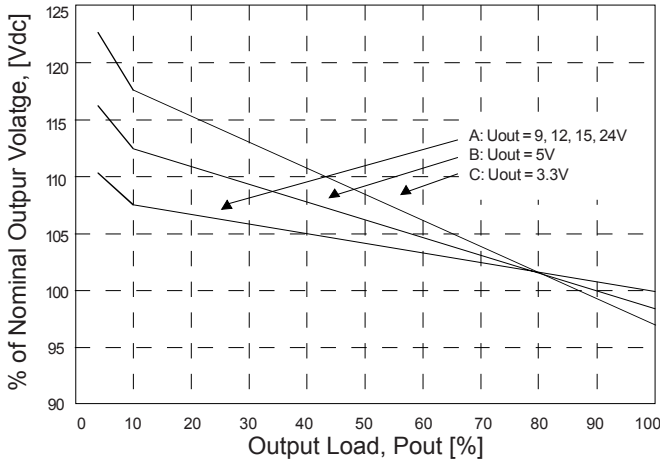
Characteristics		Conditions	min	typ	max	unit
$U_{iso}$	Isolation voltage	input/output (M-version)	1'000			Vdc
		input/output (option: H-version)	2'000			Vdc
$R_{iso}$	Isolation resistance	Input to output		10		GOhm
$C_{I/O}$	Input / output capacitance	Input to output	40		115	pF
$f_s$	Switching frequency	Fixed, at full load	35		85	kHz
	Case material		Plastic, UL 94V-0			
	Weight	SIL-7		2.7		g
	Dimensions	LxWxH	19.65 x 7.05 x 10.2			mm

**ENVIRONMENTAL SPECIFICATIONS**

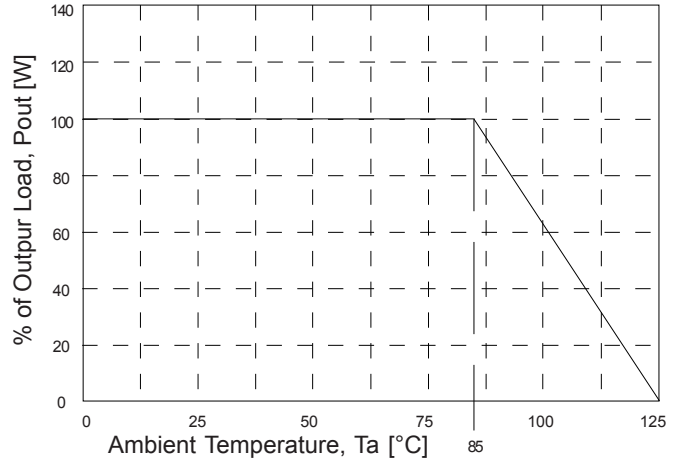
Characteristics		Conditions	min	typ	max	unit
$T_A$	Operating temperature	Ambient temperature, see also "Derating" page 3	-40		+85	°C
	Storage temperature	Ambient temperature	-55		+125	°C

# Typical characteristics

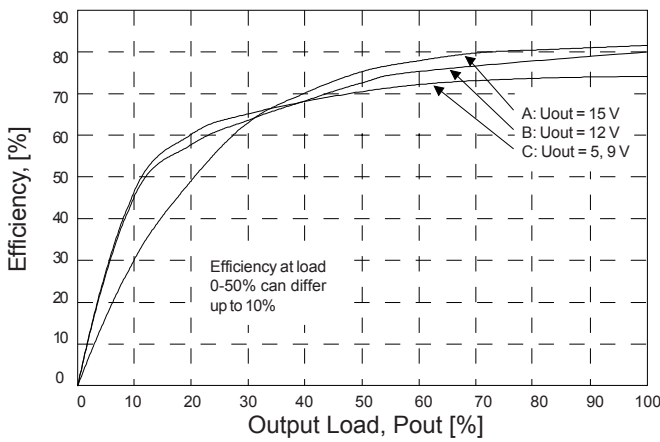
**Load Regulation (typical values)**



**Derating**



**Efficiency (typical values)**

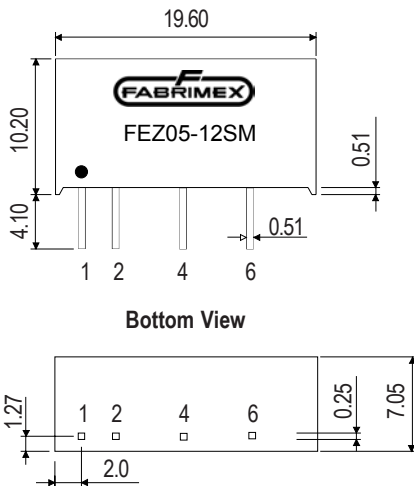


## Case

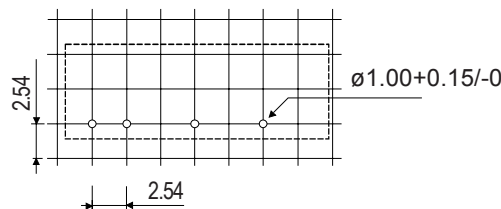
## Gehäuse

## Boîtier

Dimensions in mm. Normal tolerance 1/10 ±0.5 mm, 1/100 ±0.25 mm



**Recommended Footprint, Bottom View**



Pin	Single
1	+Vin
2	-Vin
3	NP
4	-Vout
5	NP
6	+Vout
7	NP

NP = No Pin

**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 • 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>



**FABRIMEX**  
 POWER SUPPLIES

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