

Unregulated
Case style: DIP 14

COMMERCIAL-INDUSTRIAL DC/DC Converters

1 Watt / 2 Watt
Series: MD14

Electrical specifications:

Input voltage range: +/- 10%
optional: +/- 20% (Part-No. ..X)
Output voltage accuracy: +/- 5%
Line Voltage regulation: +/- 1,2% / 1% of Vin max.
Load Voltage regulation: 5V output type 15% max.
(10% to 100% full load)
Output Ripple & Noise: 1W: 100mVp-p max.
2W: 150mVp-p max.

Efficiency: up to 86%
Short circuit protection: 1.0 second
Operating temperature: -40°C to +85°C
Isolation voltage: min. 1000V DC
Optional Part-No. /H: min. 2000V DC
Case material: black plastic

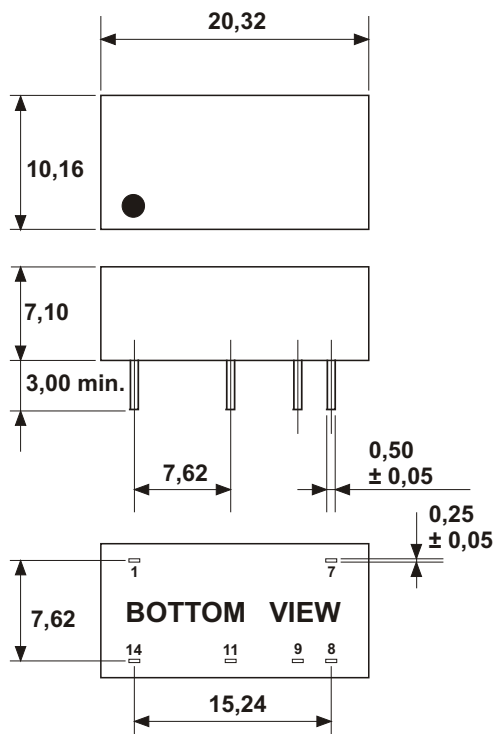
** Note: Measured @25°C with the condition
of Vin = nominal and full load

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

				1 Watt					1 Watt	2 Watt
Part - No.	Input Voltage	Output Voltage	Output Current	Output Current	Part - No.	Input Voltage	Output Voltage	Output Current	Output Current	Output Current
MD14-0505	5V	5V	200mA	200mA	MD14-0505D	5V	+/- 5V	+/-100mA	+/-200mA	+/-200mA
MD14-0512	12V	12V	83mA	83mA	MD14-0512D	12V	+/-12V	+/- 41mA	+/- 83mA	+/- 83mA
MD14-0515	15V	15V	66mA	66mA	MD14-0515D	15V	+/-15V	+/- 33mA	+/- 66mA	+/- 66mA
MD14-1205	12V	5V	200mA	200mA	MD14-1205D	12V	+/- 5V	+/-100mA	+/-200mA	+/-200mA
MD14-1212	12V	12V	83mA	83mA	MD14-1212D	12V	+/-12V	+/- 41mA	+/- 83mA	+/- 83mA
MD14-1215	15V	15V	66mA	66mA	MD14-1215D	15V	+/-15V	+/- 33mA	+/- 66mA	+/- 66mA
MD14-1505	15V	5V	200mA	200mA	MD14-1505D	15V	+/- 5V	+/-100mA	+/-200mA	+/-200mA
MD14-1512	12V	12V	83mA	83mA	MD14-1512D	12V	+/-12V	+/- 41mA	+/- 83mA	+/- 83mA
MD14-1515	15V	15V	66mA	66mA	MD14-1515D	15V	+/-15V	+/- 33mA	+/- 66mA	+/- 66mA
MD14-2405	24V	5V	200mA	200mA	MD14-2405D	24V	+/- 5V	+/-100mA	+/-200mA	+/-200mA
MD14-2412	12V	12V	83mA	83mA	MD14-2412D	12V	+/-12V	+/- 41mA	+/- 83mA	+/- 83mA
MD14-2415	15V	15V	66mA	66mA	MD14-2415D	15V	+/-15V	+/- 33mA	+/- 66mA	+/- 66mA
MD14-2424	24V	24V	41mA	41mA	MD14-2415D	15V	+/-15V	+/- 33mA	+/- 66mA	+/- 66mA

The input voltage can be increased by the value of the selected output voltage in boost operation (see Application Note C43, page 149).

Any other input & output voltages available



PIN CONNECTION:

PIN	SINGLE	SINGLE A	DUAL
1	- IN	+ IN	- IN
7	NC	+ Vout	NC
8	- Vout	- Vout	COM
9	+ Vout	NC	+ Vout
11	NC	NC	- Vout
14	+ IN	- IN	+ IN

Add "A" to the end of Partnumber.
For example MD14-0505A 1Watt.

ALL DIMENSIONS IN MM
Tolerance +/- 0.25mm
All pins on a 2,54mm pitch.
NC = No connection; NP = No pin

Note: Input and output capacitor
4,7µF - 10µF recommended.
Dot denotes pin 1

Specification may be changed without notice
please contact office for verification

We can offer EMC - Filter
according to EN55011/22 Class B.

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Case style: DIP 14

COMMERCIAL-INDUSTRIAL

DC/DC Converters

1 Watt / 2 Watt

Series:

MD14-xxyy(D)B/H

Electrical specifications:

Input voltage range: $\pm 10\%$
Output voltage accuracy: $\pm 5\%$ **
Line Voltage regulation: $\pm 1,2\%$ / 1% of V_{in} max.
Load Voltage regulation: 5V output type 15% max.
(10% to 100% full load) 9V ~ 24V output types 10% max.
Efficiency: up to 85%.

** Note: Measured @25°C with the condition
of V_{in} = nominal and full load

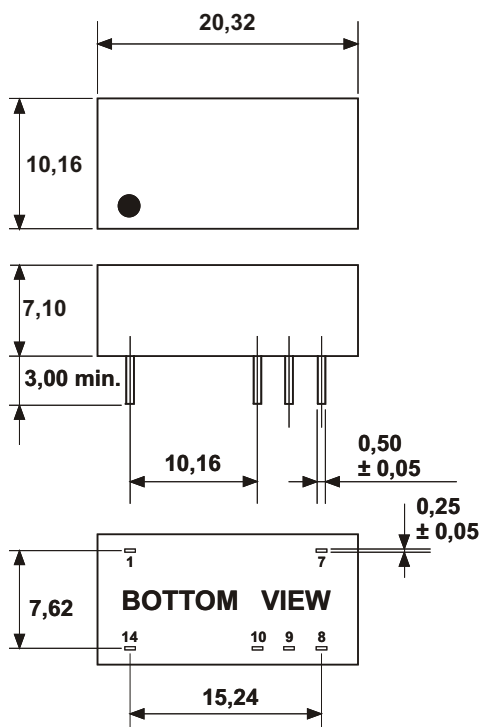
Output Ripple & Noise: 100mVp-p max. (1 Watt)
150mVp-p max. (2 Watt)
Short circuit protection: 1.0 second
optional Part-No. /S:
Operating Temperature: -40°C to $+85^{\circ}\text{C}$
Isolation voltage: min. 3000V DC
Optional Part-No. /H4:
Case material: black plastic

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

Part - No.			1 Watt	2 Watt	Part - No.			1 Watt	2 Watt
Single Output	Input Voltage	Output Voltage	Output Current	Output Current	Dual Output	Input Voltage	Output Voltage	Output Current	Output Current
MD14-0505B/H	5V	5V	200mA	400mA	MD14-0505DB/H	5V	$\pm 5\text{V}$	$\pm 100\text{mA}$	$\pm 200\text{mA}$
MD14-0512B/H		12V	83mA	166mA	MD14-0512DB/H		$\pm 12\text{V}$	$\pm 42\text{mA}$	$\pm 83\text{mA}$
MD14-0515B/H		15V	66mA	133mA	MD14-0515DB/H		$\pm 15\text{V}$	$\pm 33\text{mA}$	$\pm 66\text{mA}$
MD14-1205B/H	12V	5V	200mA	400mA	MD14-1205DB/H	12V	$\pm 5\text{V}$	$\pm 100\text{mA}$	$\pm 200\text{mA}$
MD14-1212B/H		12V	83mA	166mA	MD14-1212DB/H		$\pm 12\text{V}$	$\pm 42\text{mA}$	$\pm 83\text{mA}$
MD14-1215B/H		15V	66mA	133mA	MD14-1215DB/H		$\pm 15\text{V}$	$\pm 33\text{mA}$	$\pm 66\text{mA}$
MD14-1505B/H	15V	5V	200mA	400mA	MD14-1505DB/H	15V	$\pm 5\text{V}$	$\pm 100\text{mA}$	$\pm 200\text{mA}$
MD14-1512B/H		12V	83mA	166mA	MD14-1512DB/H		$\pm 12\text{V}$	$\pm 42\text{mA}$	$\pm 83\text{mA}$
MD14-1515B/H		15V	66mA	133mA	MD14-1515DB/H		$\pm 15\text{V}$	$\pm 33\text{mA}$	$\pm 66\text{mA}$
MD14-2405B/H	24V	5V	200mA	400mA	MD14-2405DB/H	24V	$\pm 5\text{V}$	$\pm 100\text{mA}$	$\pm 200\text{mA}$
MD14-2412B/H		12V	83mA	166mA	MD14-2412DB/H		$\pm 12\text{V}$	$\pm 42\text{mA}$	$\pm 83\text{mA}$
MD14-2415B/H		15V	66mA	133mA	MD14-2415DB/H		$\pm 15\text{V}$	$\pm 33\text{mA}$	$\pm 66\text{mA}$

The input voltage can be increased by the value of the selected output voltage in boost operation (see Application Note C43, page 149).

Any other input & output voltages available



PIN CONNECTION:		
PIN	SINGLE	DUAL
1	- IN	- IN
7	NC	NC
8	+ Vout	+ Vout
9	NP	GND
10	- Vout	- Vout
14	+ IN	+ IN

ALL DIMENSIONS IN MM
Tolerance $\pm 0,25\text{mm}$
All pins on a 2,54mm pitch.
NC = No connection; NP = No pin

Note: Input and output capacitor
4,7 μF - 10 μF recommended.
Dot denotes pin 1

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Unregulated
Case style: DIP 14

COMMERCIAL-INDUSTRIAL DC/DC Converters ISOLATED OUTPUTS

1 Watt / 2 Watt
Series: MD14

Electrical specifications:

Input voltage range: +/- 10%
Optional Part-No.: /X +/- 20% *
Output voltage accuracy: +/- 5% **
Line Voltage regulation: +/- 1,2% / 1% of Vin max.
Load Voltage regulation: 3,3/5V output 15% max.
(10% to 100% full load) 9V ~ 24V output 10% max.

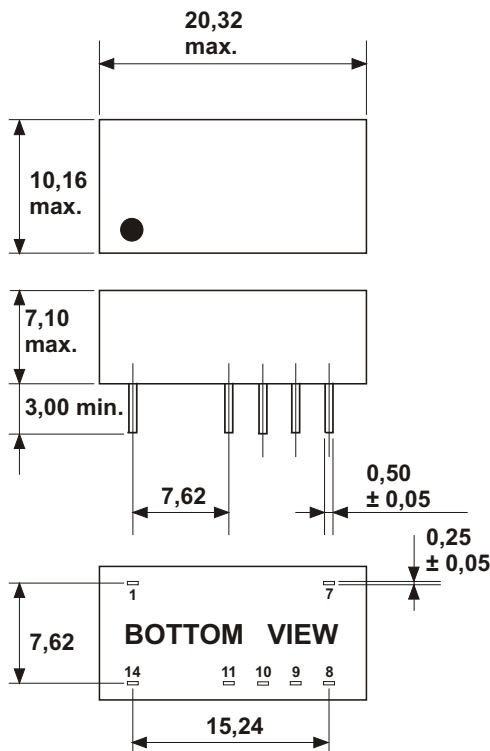
* /X: z.B. MD14-242618/X 2W

** Note: Measured @25°C with the condition
of Vin = nominal and full load

Efficiency: up to 81%
Short circuit protection: 1.0 second
Optional Part No.: /S continuous
Operating temperature: -40°C to +85°C
Output Ripple & Noise: 1W:100mVp-p
2W:150mVp-p
Isolation voltage I/O: min. 1000V DC
Part No.: /H2 min. 2000V DC (1Watt)
Isolation voltage O/O: min. 500V DC

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

Part - No. Dual Output	Input Voltage DC	Output Voltage DC	1 Watt Output Current	2 Watt Output Current
MD14-050505 MD14-051212 MD14-051515	5V	5V / 5V 12V / 12V 15V / 15V	100mA / 100mA 41mA / 41mA 33mA / 33mA	200mA / 200mA 83mA / 83mA 66mA / 66mA
MD14-120505 MD14-121212 MD14-121515	12V	5V / 5V 12V / 12V 15V / 15V	100mA / 100mA 41mA / 41mA 33mA / 33mA	200mA / 200mA 83mA / 83mA 66mA / 66mA
MD14-150505 MD14-151212 MD14-151515	15V	5V / 5V 12V / 12V 15V / 15V	100mA / 100mA 41mA / 41mA 33mA / 33mA	200mA / 200mA 83mA / 83mA 66mA / 66mA
MD14-240505 MD14-241212 MD14-241515	24V	5V / 5V 12V / 12V 15V / 15V	100mA / 100mA 41mA / 41mA 33mA / 33mA	200mA / 200mA 83mA / 83mA 66mA / 66mA



Any other input & output voltages available

PIN CONNECTION:	
PIN	DUAL
1	GND
7	NC
8	- Vout 2
9	+ Vout 2
10	- Vout 1
11	+ Vout 1
14	VCC

ALL DIMENSIONS IN MM
Tolerance +/- 0.25mm
All pins on a 2,54mm pitch.
NC = No connection; NP = No pin

Note: Input and output capacitor
4,7µF - 10µF recommended.
Dot denotes pin 1

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