



# COIL TECHNOLOGY CORPORATION

## 2W 14Pin DIP DC/DC CONVERTERS

### Features

**14 Pin DIP Package  
-40 to +85 operating temp  
CE EN60950-1 and CE EN60601-1 certified**

<b>Series</b>	<b>Description</b>	<b>Page</b>
<b>MDH</b>	<b>2W Single o/p 1kV Isolation, 2kV option</b>	<b>2</b>
<b>MDH-xxxxD</b>	<b>2W Dual o/p 1kV Isolation, 2kV option</b>	<b>4</b>
<b>MDVH</b>	<b>2W single o/p 3kV Isolation, 4kV option</b>	<b>6</b>
<b>MDVH-xxxxD</b>	<b>2W dual o/p 3kV Isolation, 4kV option</b>	<b>8</b>

**ELECTRICAL SPECIFICATIONS: UNREGULATED**

- Input voltage range -----  $\pm 10\%$
- Input filter----- Capacitor.
- Output voltage accuracy -----  $\pm 5\%$
- Line voltage regulation ----- 1.2%Typ./1%Of Vin
- Load voltage regulation (10% ~ 100%)-  
5V Output Types----- 15% Max.  
9V,12V and 15V Output Types----- 10% Max.
- Ripple&noise/20MHZ BW ----- 150mV P-P Max.
- Efficiency at full load----- 70% Min.
- Isolation voltage ----- 1000 Vdc/1sec.
- Short circuit protection ----- 1.0 Second
- Operating temperature range -----  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$
- Storage temperature range -----  $-55^{\circ}\text{C}$  to  $125^{\circ}\text{C}$
- Isolation resistance ----- 226G  $\Omega$
- Isolation capacity ----- 54pF Typ.
- Package weight----- 2.8g
- Meet CE EN-60950-1 Certified、CE  
EN-60601-1 Certified

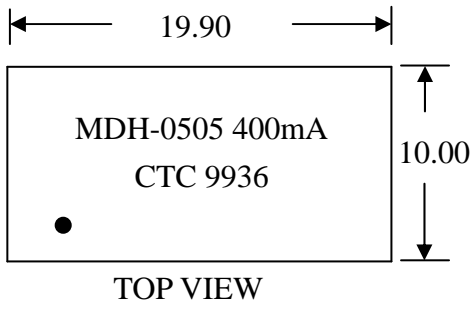


Note: Measured @  $25^{\circ}\text{C}$  With The Condition of  
Vin = Nominal And Full Load.

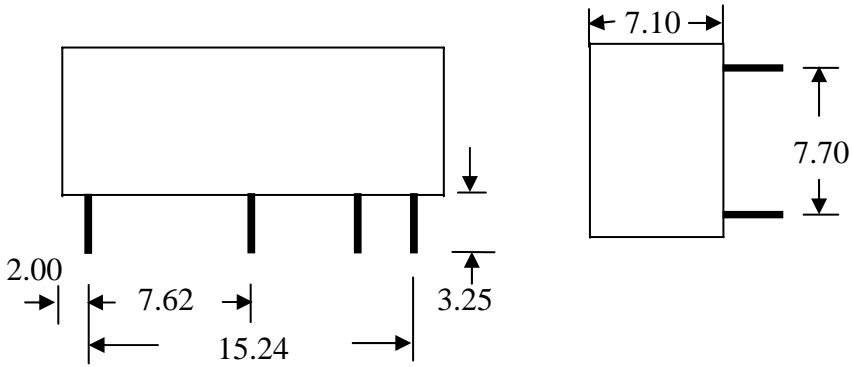
**Note: Add H after P/N for isolation 2000Vdc**

Selection Guide				
Model Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
MDH-XX3.3	3.3,5,9,12,15,24	3.3	600	70
MDH-XX05	3.3,5,9,12,15,24	5	400	70
MDH-XX09	3.3,5,9,12,15,24	9	222	72
MDH-XX12	3.3,5,9,12,15,24	12	166	75
MDH-XX15	3.3,5,9,12,15,24	15	133	78
MDH-XX24	3.3,5,9,12,15,24	24	83	80

# Package Style And Pinning (mm)



PIN	FUNCTION
1	-VIN
7	NC
8	-VOUT
9	+VOUT
11	NC
14	+VIN



\*Note : Terminal -----0.51 X 0.25 Flat Pin  
TOL. :  $\pm 0.25$ mm  
UNIT : mm

**ELECTRICAL SPECIFICATIONS: UNREGULATED**

- Input voltage range -----  $\pm 10\%$
- Input filter----- Capacitor.
- Output voltage accuracy -----  $\pm 5\%$
- Line voltage regulation ----- 1.2%Typ./1%Of Vin
- Load voltage regulation (10% ~ 100%)-  
5V Output Types----- 15% Max.  
9V,12V and 15V Output Types----- 10% Max.
- Ripple&noise/20MHZ BW -----  $\pm 150\text{mV P-P Max.}$
- Efficiency at full load----- 70% Min.
- Isolation voltage ----- 1000 Vdc/1sec.
- Short circuit protection ----- 1.0 Second
- Operating temperature range -----  $-40^{\circ}\text{C to } 85^{\circ}\text{C}$
- Storage temperature range -----  $-55^{\circ}\text{C to } 125^{\circ}\text{C}$
- Isolation resistance ----- 10G  $\Omega$
- Isolation capacity ----- 56pF Typ.
- Package weight----- 2.8g
- Meet CE EN-60950-1 Certified、CE  
EN-60601-1 Certified

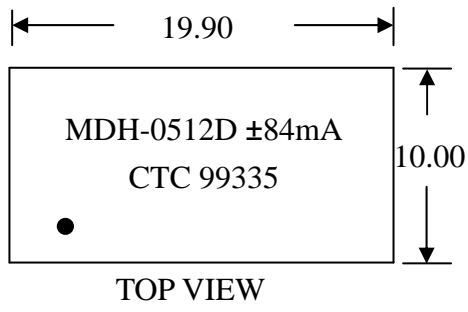


Note: Measured @ 25°C With The Condition of  
Vin = Nominal And Full Load.

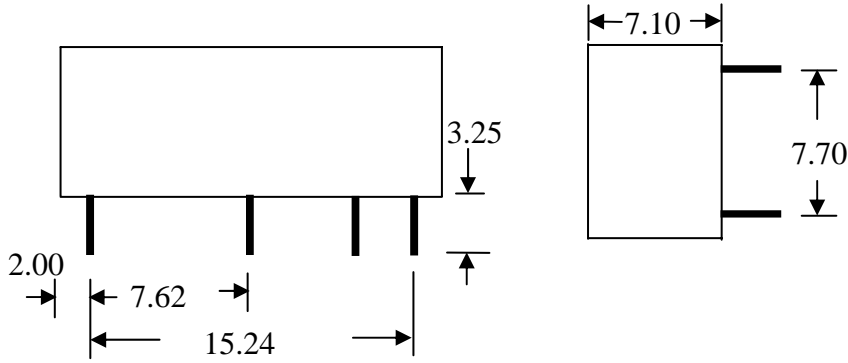
**Note: Add H after P/N for isolation 2000Vdc**

Selection Guide				
Model Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
MDH-XX3.3D	3.3,5,9,12,15,24	$\pm 3.3$	$\pm 303$	70
MDH-XX05D	3.3,5,9,12,15,24	$\pm 5$	$\pm 200$	74
MDH-XX09D	3.3,5,9,12,15,24	$\pm 9$	$\pm 111$	75
MDH-XX12D	3.3,5,9,12,15,24	$\pm 12$	$\pm 83$	78
MDH-XX15D	3.3,5,9,12,15,24	$\pm 15$	$\pm 66$	80
MDH-XX24D	3.3,5,9,12,15,24	$\pm 24$	$\pm 42$	82

# Package Style And Pinning (mm)



PIN	FUNCTION
1	-VIN
7	NC
8	COM.
9	+VOUT
11	-VOUT
14	+VIN



\*Note : Terminal---- 0.51 X 0.25 Flat Pin

TOL. : ±0.25mm

UNIT : mm

**ELECTRICAL SPECIFICATIONS: UNREGULATED**

- Input voltage range -----  $\pm 10\%$
- Output voltage accuracy -----  $\pm 5\%$
- Line voltage regulation ----- 1.2%Typ./1%Of Vin
- Load voltage regulation (10% ~ 100%)-  
5V Output Types----- 15% Max.  
9V~15V Output Types----- 10% Max.
- Ripple&noise/20MHZ BW ----- 150mV P-P Max.
- Efficiency at full load----- 70% Min.
- Isolation voltage----- 3000Vdc/1sec.
- Short circuit protection----- 1.0 Second
- Operating temperature range ----- -40°C to 85°C
- Storage temperature range ----- -55°C to 125°C
- Meet CE EN-60950-1 Certified 、 CE EN-60601-1 Certified

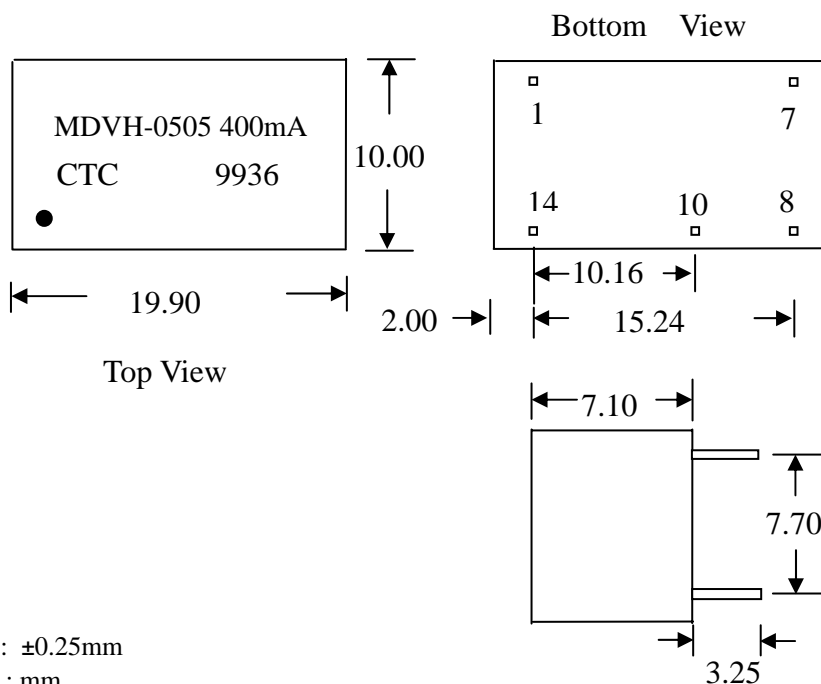


**Note: Add H after P/N for isolation 4000Vdc**

**Selection Guide**

Model Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
MDVH-XX3.3	3.3,5,9,12,15,24	3.3	606	70
MDVH-XX05	3.3,5,9,12,15,24	5	400	70
MDVH-XX09	3.3,5,9,12,15,24	9	222	75
MDVH-XX12	3.3,5,9,12,15,24	12	166	78
MDVH-XX15	3.3,5,9,12,15,24	15	133	80
MDVH-XX24	3.3,5,9,12,15,24	24	83	82

**Package Style And Pinning (mm)**



PIN	FUNCTION
1	-VIN
7	NC
8	+VOUT
10	-VOUT
14	+VIN

TOL. :  $\pm 0.25\text{mm}$   
UNIT : mm

**ELECTRICAL SPECIFICATIONS:**

- Input voltage range -----  $\pm 10\%$
- Output voltage accuracy -----  $\pm 5\%$
- Line voltage regulation ----- 1.2%Typ./1%Of Vin
- Load voltage regulation (10% ~ 100%)-  
5V Output Types-----  $\pm 15\%$  Max.  
9V~15V Output Types-----  $\pm 10\%$  Max.
- Ripple&noise/20MHZ BW -----  $\pm 150\text{mV P-P Max.}$
- Efficiency at full load----- 70% Min.
- Isolation voltage----- 3000Vdc/1sec.
- Short circuit protection----- 1.0 Second
- Operating temperature range -----  $-40^{\circ}\text{C to } 85^{\circ}\text{C}$
- Storage temperature range -----  $-55^{\circ}\text{C to } 125^{\circ}\text{C}$
- Meet CE EN-60950-1 Certified、 CE EN-60601-1 Certified

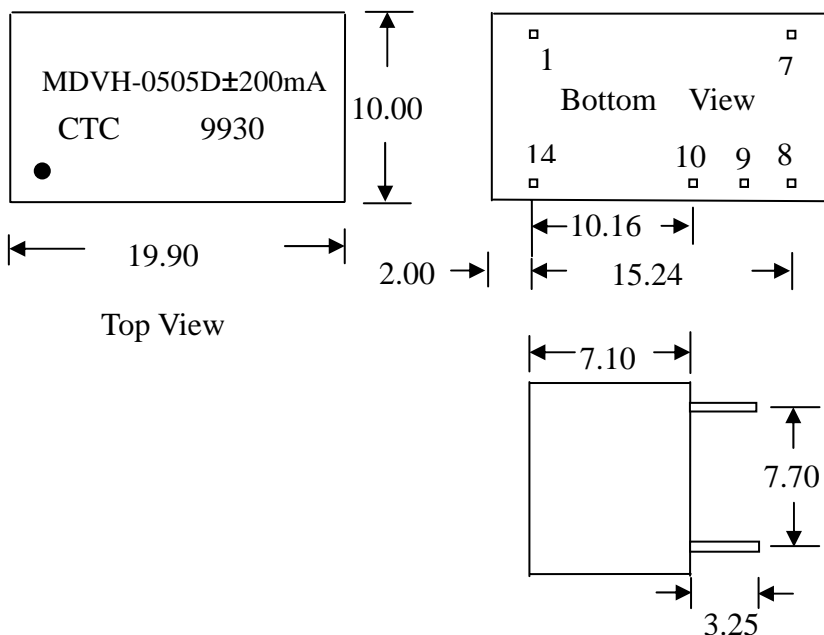


**Note: Add H after P/N for isolation 4000Vdc**

**Selection Guide**

Model Number	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
MDVH-XX3.3D	3.3,5,9,12,15,24	$\pm 3.3$	$\pm 303$	70
MDVH-XX05D	3.3,5,9,12,15,24	$\pm 5$	$\pm 200$	70
MDVH-XX09D	3.3,5,9,12,15,24	$\pm 9$	$\pm 111$	75
MDVH-XX12D	3.3,5,9,12,15,24	$\pm 12$	$\pm 83$	78
MDVH-XX15D	3.3,5,9,12,15,24	$\pm 15$	$\pm 66$	80
MDVH-XX24D	3.3,5,9,12,15,24	$\pm 24$	$\pm 42$	82

**Package Style And Pinning (mm)**



PIN	FUNCTION
1	-VIN
7	NC
8	+VOUT
9	COM.
10	-VOUT
14	+VIN

TOL. :  $\pm 0.25\text{mm}$   
UNIT : mm