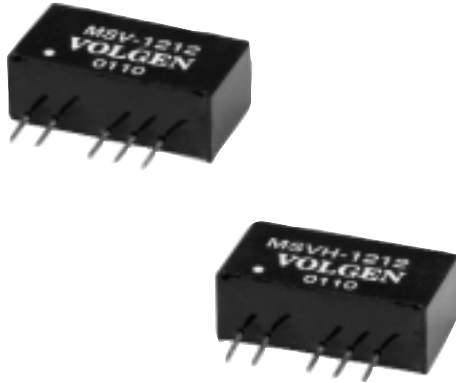


# MSV / MSVH

## 1 AND 2 WATT DC/DC CONVERTERS SINGLE & MULTIPLE OUTPUTS



### FEATURES

- ▶ HIGH ISOLATION VOLTAGE
- ▶ ECONOMY LINE
- ▶ SIP
- ▶ 7 PIN PACKAGE
- ▶ 3000 VDC ISOLATION
- ▶ UNREGULATED OUTPUT
- ▶ UL 94V-0 PACKAGE MATERIAL
- ▶ 5V ~ 24V INPUT MODELS
- ▶ ONE YEAR WARRANTY

### ELECTRICAL SPECIFICATIONS

All specifications are typical at nominal input, full load

### INPUT SPECIFICATIONS

Input Voltage Range..... ±10%  
Input Filter..... Capacitor

### OUTPUT SPECIFICATIONS

Output Voltage Accuracy..... ±5%

Efficiency..... 75% typ.

Ripple .....MSV (Single) 100 mVp-p  
(Dual) 75 mVp-p  
.....MSVH (Single) 200 mVp-p  
(Dual) 150 mVp-p

Line Regulation..... 1.2%/1% of V in

Line Filter..... Built-in

Load Regulation.....5V=15% max.  
9V, 12V, 15V=10% max.

### GENERAL SPECIFICATIONS

\*Isolation Voltage..... 3000 VDC

MTBF..... >1,000,000 hours

Isolation Resistance..... 1000M-ohms min. @ 500 VDC

\*Isolation Voltage of 4,000 & 5,000 VDC available upon request.

### ENVIRONMENTAL SPECIFICATIONS

Operating Temperature ..... -25°C ~ +85°C

Temperature Coefficient..... ±0.05%/ °C

Humidity..... 30%~95% RH

Storage Temperature..... -55°C ~ +125°C

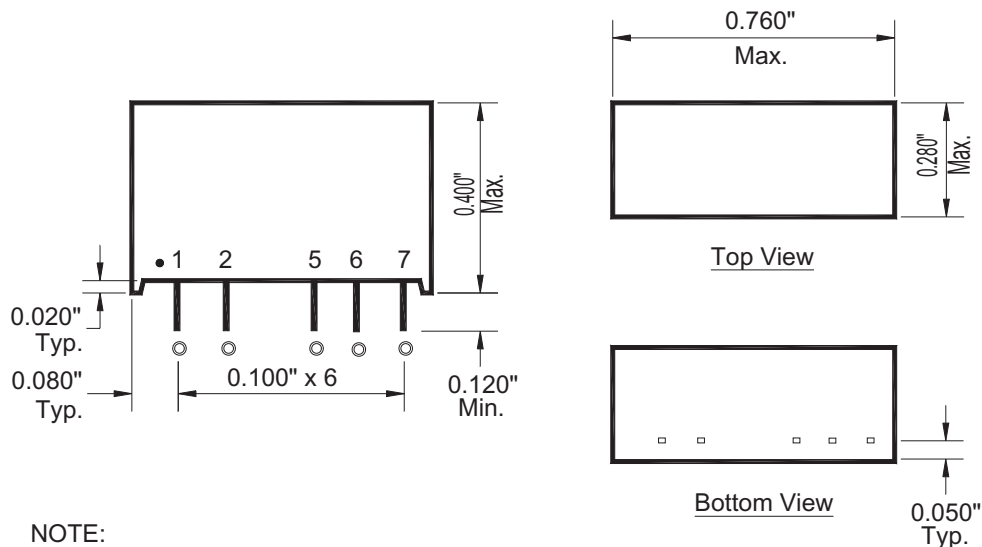
### PHYSICAL SPECIFICATIONS

Case Material.....UL 94V-0 Plastic  
Single In-Line Pin Configuration

# Series

PART NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY
MSV - 0505	5 VDC	5 VDC	200 mA	70 %
MSV - 0509		9 VDC	111 mA	75 %
MSV - 0512		12 VDC	84 mA	80 %
MSV - 0515		15 VDC	66 mA	82 %
MSV - 0505D		±5 VDC	±100 mA	70 %
MSV - 0509D		±9 VDC	±56 mA	75 %
MSV - 0512D		±12 VDC	±42 mA	78 %
MSV - 0515D		±15 VDC	±33 mA	80 %
MSV - 1205		12 VDC	5 VDC	200 mA
MSV - 1209	9 VDC		111 mA	75 %
MSV - 1212	12 VDC		84 mA	80 %
MSV - 1215	15 VDC		66 mA	82 %
MSV - 1205D	±5 VDC		±100 mA	70 %
MSV - 1209D	±9 VDC		±56 mA	75 %
MSV - 1212D	±12 VDC		±42 mA	78 %
MSV - 1215D	±15 VDC		±33 mA	80 %
MSV - 1505	15 VDC		5 VDC	200 mA
MSV - 1509		9 VDC	111 mA	75 %
MSV - 1512		12 VDC	84 mA	80 %
MSV - 1515		15 VDC	66 mA	82 %
MSV - 1505D		±5 VDC	±100 mA	70 %
MSV - 1509D		±9 VDC	±56 mA	75 %
MSV - 1512D		±12 VDC	±42 mA	78 %
MSV - 1515D		±15 VDC	±33 mA	80 %
MSV - 2405		24 VDC	5 VDC	200 mA
MSV - 2409	9 VDC		111 mA	75 %
MSV - 2412	12 VDC		84 mA	80 %
MSV - 2415	15 VDC		66 mA	82 %
MSV - 2405D	±5 VDC		±100 mA	70 %
MSV - 2409D	±9 VDC		±56 mA	75 %
MSV - 2412D	±12 VDC		±42 mA	78 %
MSV - 2415D	±15 VDC		±33 mA	80 %

## MSV - 1 WATT



**NOTE:**

\*TERMINAL 0.020" x 0.010" FLAT PIN

**NOTE:**

All specifications typical and nominal / full load and 25°C unless otherwise noted.  
 Avoid sustained operation in overload or dead short conditions.  
 Specifications subject to changes without notice.

### MSV - 1 WATT

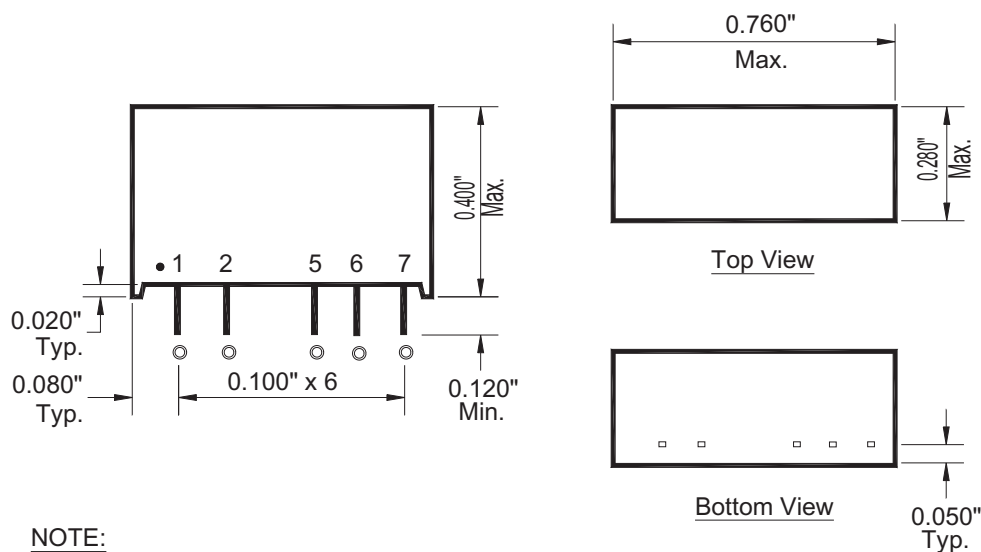
#### Pin Connections

PIN	SINGLE	DUAL
1	+INPUT	+INPUT
2	-INPUT	-INPUT
5	-OUTPUT-	-OUTPUT
6	NO PIN	COMMON
7	+OUTPUT	+OUTPUT

# Series

PART NUMBER	INPUT VOLTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFFICIENCY
MSVH - 0505	5 VDC	5 VDC	400 mA	75 %
MSVH - 0509		9 VDC	222 mA	75 %
MSVH - 0512		12 VDC	167 mA	78 %
MSVH - 0515		15 VDC	133 mA	80 %
MSVH - 0505D		±5 VDC	±200 mA	70 %
MSVH - 0509D		±9 VDC	±111 mA	75 %
MSVH - 0512D		±12 VDC	±84 mA	78 %
MSVH - 0515D		±15 VDC	±66 mA	80 %
MSVH - 1205	12 VDC	5 VDC	400 mA	82 %
MSVH - 1209		9 VDC	222 mA	78 %
MSVH - 1212		12 VDC	167 mA	80 %
MSVH - 1215		15 VDC	133 mA	85 %
MSVH - 1205D		±5 VDC	±200 mA	74 %
MSVH - 1209D		±9 VDC	±111 mA	75 %
MSVH - 1212D		±12 VDC	±84 mA	80 %
MSVH - 1215D		±15 VDC	±66 mA	82 %
MSVH - 1505	15 VDC	5 VDC	400 mA	78 %
MSVH - 1509		9 VDC	222 mA	78 %
MSVH - 1512		12 VDC	167 mA	80 %
MSVH - 1515		15 VDC	133 mA	80 %
MSVH - 1505D		±5 VDC	±200 mA	70 %
MSVH - 1509D		±9 VDC	±111 mA	75 %
MSVH - 1512D		±12 VDC	±84 mA	80 %
MSVH - 1515D		±15 VDC	±66 mA	82 %
MSVH - 2405	24 VDC	5 VDC	400 mA	80 %
MSVH - 2409		9 VDC	222 mA	80 %
MSVH - 2412		12 VDC	167 mA	84 %
MSVH - 2415		15 VDC	133 mA	85 %
MSVH - 2405D		±5 VDC	±200 mA	75 %
MSVH - 2409D		±9 VDC	±111 mA	78 %
MSVH - 2412D		±12 VDC	±84 mA	80 %
MSVH - 2415D		±15 VDC	±66 mA	82 %

## 2 WATT



### MSVH - 2 WATTS

#### Pin Connections

PIN	SINGLE	DUAL
1	+INPUT	+INPUT
2	-INPUT	-INPUT
5	-OUTPUT-	-OUTPUT
6	NO PIN	COMMON
7	+OUTPUT	+OUTPUT

#### NOTE:

\*TERMINAL 0.020" x 0.010" FLAT PIN

#### NOTE:

All specifications typical and nominal / full load and 25°C unless otherwise noted.  
Avoid sustained operation in overload or dead short conditions.  
Specifications subject to changes without notice.