

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-54151736
 勝特力电子(深圳) 86-755-83298787
 Http://www.100y.com.tw

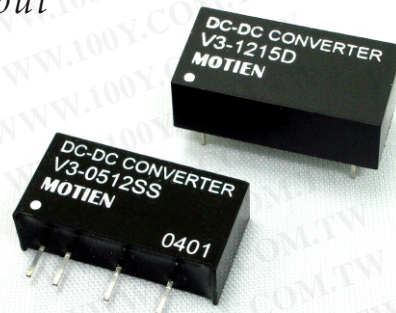


V3 Series

2W Unregulated Single & Dual output

Features

- 7 Pin SIL / 14 Pin DIL Package
- 1000 VDC Isolation
- Up to 5200 VDC Isolation
- Low Ripple and Noise
- Efficiency up to 85%
- -40 ~ 85°C Operation Temperature Range
- Non-Conductive Black Plastic Case



The V3 series is a family of cost effective 2W single & dual output DC-DC converters. These converters achieve low cost and ultra-miniature SIP 7 pin or DIP 14 pin size without compromising performance or field reliability. Devices are encapsulated using flame retardant resin. The models operate from input voltage of 5, 9, 12, 18, 24, 48 Vdc with output voltage of 3.3, 5, 9, 12, 15, 18, 24, ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 , ± 18 , ± 24 Vdc. High performance features include 1000Vdc input/output isolation, high efficiency operation and output voltage accuracy of $\pm 5\%$ maximum. Standard features include an input range of $\pm 10\%$ tolerance and low output noise and ripple.

All specifications typical at Ta=25°C, nominal input voltage and full load unless otherwise specified

OUTPUT SPECIFICATIONS	
Voltage Accuracy	$\pm 3\%$
Line Regulation	$\pm 1.2\%$ / Per 1% Vin Change
Load Regulation	(From 20% to 100% Load) $\pm 10\%$ (Output 3.3V Model) $\pm 20\%$ max.
Ripple & Noise	(20 Mhz bandwidth) 60mV pk-pk
Current Limiting	110% of max. Iout
Short Circuit Protection	1 sec
Temperature Coefficient	$\pm 0.02\%/^{\circ}\text{C}$
Capacitor Load	See Table

INPUT SPECIFICATIONS	
Voltage Range	$\pm 10\%$
Max. Input Current	See Table
No-Load Input Current	See Table
Input Filter	Capacitor
Input Reflected Ripple rms thru 12uH inductor, 5Hz to 20MHz	20 mA rms

PHYSICAL SPECIFICATIONS	
Case Material	Non-conductive Black Plastic(UL94V-0 rated)
Base Material	Epoxy encapsulated(UL94V-0 rated)
Pin Material	Alloy42 Solder-coated
Potting Material	Epoxy (UL94V-0 rated)
Weight	2.7g
Dimensions	
SIP Case	0.24"x0.46"x0.38"
DIP Case	0.50"x0.40"x0.27"

EMI SPECIFICATIONS	
Radiated Emissions	

GENERAL SPECIFICATIONS	
Efficiency	See table
I/O Isolation Voltage	
I/O 1 min(flash tested for 1 sec)	1000~5200Vdc
Case/Input&Output	1000Vdc
I/O Isolation Capacity	60 pF
I/O Isolation Resistance	1000M Ohm
Switching Frequency	Variable 50KHz
Humidity	95% rel H
Reliability Calculated MTBF	>2.01 Mhrs
Safety Standard	IEC 60950-1:2001 /EN60950/UL60950
Safety Approvals	

ENVIRONMENT SPECIFICATIONS	
Operating Temperature	-40°C~85°C
Case Temperature	100°C
Storage Temperature	-40°C~125°C
Cooling	Nature Convection

ABSOLUTE MAXIMUM RATINGS	
Input Voltage	
3R3 Modes	-0.7~5 Vdc
05 Modes	-0.7~7 Vdc
12 Modes	-0.7~15 Vdc
24 Modes	-0.7~28 Vdc
48 Modes	-0.7~54 Vdc
Operating Amb. Temperature	-40°C~85°C
Case Temperature	100°C
Storage Temperature	-40°C~125°C
I/O Isolation Voltage 1 minutes (flash tested for 1 sec.)	1000 Vdc
Short Circuit Protection	(Limited Max.) 1 Sec
Lead Soldering Temperature 1.5mm from case 10 sec.	260°C

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V3 - 2W Unregulated Single & Dual output

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MODEL SELECTION GUIDE

MODEL NUMBER	Voltage Range	INPUT		OUTPUT		EFFICIENCY @FL(%)	Capacitor Load(μF)
		No-Load Current	Full Load Current	Voltage(Vdc)	Current(mA)		
V3-053R3S	5	30	406	±3.3	200	65	220
V3-0505S	5	30	555	±5	200	72	220
V3-057R2S	5	30	555	±7.2	138.8	72	220
V3-0509S	5	30	519	±9	111.1	77	220
V3-0512S	5	30	512	±12	83.3	78	220
V3-0515S	5	30	500	±15	66.67	80	220
V3-0518S	5	30	500	±18	55.55	80	220
V3-0524S	5	30	500	±24	41.67	80	220
V3-123R3S	12	20	164	±3.3	200	67	220
V3-1205S	12	20	222	±5	200	75	220
V3-127R2S	12	20	219	±7.2	138.8	76	220
V3-1209S	12	20	216	±9	111.1	77	220
V3-1212S	12	20	203	±12	83.3	82	220
V3-1215S	12	20	203	±15	66.67	82	220
V3-1218S	12	20	203	±18	55.55	82	220
V3-1224S	12	20	203	±24	41.67	82	220
V3-243R3S	24	10	80	±3.3	200	68	220
V3-2405S	24	10	111	±5	200	75	220
V3-247R2S	24	10	111	±7.2	138.8	75	220
V3-2409S	24	10	104	±9	111.1	80	220
V3-2412S	24	10	101	±12	83.3	82	220
V3-2415S	24	10	101	±15	66.67	82	220
V3-2418S	24	10	101	±18	55.55	82	220
V3-2424S	24	10	101	±24	41.67	82	220
V3-483R3S	48	6	45	±3.3	200	60	220
V3-4805S	48	6	57	±5	200	73	220
V3-487R2S	48	6	54	±7.2	138.8	77	220
V3-4809S	48	6	54	±9	111.1	77	220
V3-4812S	48	6	52	±12	83.3	80	220
V3-4815S	48	6	52	±15	66.67	80	220
V3-4818S	48	6	52	±18	55.55	80	220
V3-4824S	48	6	52	±24	41.67	80	220
V3-053R3D	5	30	406	±3.3	200	65	220
V3-0505D	5	30	555	±5	200	72	220
V3-057R2D	5	30	555	±7.2	138.8	72	220
V3-0509D	5	30	519	±9	111.1	77	220
V3-0512D	5	30	512	±12	83.3	78	220
V3-0515D	5	30	500	±15	66.67	80	220
V3-0518D	5	30	500	±18	55.55	80	220
V3-0524D	5	30	500	±24	41.67	80	220
V3-123R3D	12	20	164	±3.3	200	67	220
V3-1205D	12	20	222	±5	200	75	220
V3-127R2D	12	20	219	±7.2	138.8	76	220
V3-1209D	12	20	216	±9	111.1	77	220
V3-1212D	12	20	203	±12	83.3	82	220
V3-1215D	12	20	203	±15	66.67	82	220
V3-1218D	12	20	203	±18	55.55	82	220
V3-1224D	12	20	203	±24	41.67	82	220
V3-243R3D	24	10	80	±3.3	200	68	220
V3-2405D	24	10	111	±5	200	75	220
V3-247R2D	24	10	111	±7.2	138.8	75	220
V3-2409D	24	10	104	±9	111.1	80	220
V3-2412D	24	10	101	±12	83.3	82	220
V3-2415D	24	10	101	±15	66.67	82	220
V3-2418D	24	10	101	±18	55.55	82	220
V3-2424D	24	10	101	±24	41.67	82	220

Suffix "H" means 3 Kvdc isolation
 Suffix "H5" means 5.2 Kvdc isolation

Suffix "H2" means 2 Kvdc isolation

Suffix "H4" means 4 Kvdc isolation

The models listed above is just for standard type. If you need the special specification product, please contact our service member by telephone presented in shortform cover or e-mail to : sales@motien.com.tw

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MODEL NUMBER	INPUT			OUTPUT		EFFICIENCY @FL(%)	Capacitor Load(μF)
	Voltage Range	No-Load Current	Full Load Current	Voltage(Vdc)	Current(mA)		
V3-053R3SS	5	30	367	3.3	400	72	470
V3-0505SS	5	30	512	5	400	78	470
V3-057R2SS	5	30	500	7.2	277.7	80	470
V3-0509SS	5	30	500	9	222.2	80	470
V3-0512SS	5	30	487	12	166.7	82	470
V3-0515SS	5	30	487	15	133.3	82	470
V3-0518SS	5	30	487	18	111.1	82	470
V3-0524SS	5	30	487	24	83.3	82	470
V3-123R3SS	12	36	169	3.3	400	65	470
V3-1205SS	12	20	216	5	400	77	470
V3-127R2SS	12	20	208	7.2	277.7	80	470
V3-1209SS	12	20	208	9	222.2	80	470
V3-1212SS	12	20	203	12	166.7	82	470
V3-1215SS	12	20	203	15	133.3	82	470
V3-1218SS	12	20	208	18	111.1	80	470
V3-1224SS	12	20	208	24	83.3	80	470
V3-243R3SS	24	10	76	3.3	400	72	470
V3-2405SS	24	10	105	5	400	79	470
V3-247R2SS	24	10	104	7.2	277.7	80	470
V3-2409SS	24	10	104	9	222.2	80	470
V3-2412SS	24	10	102	12	166.7	80	470
V3-2415SS	24	10	101	15	133.3	82	470
V3-2418SS	24	10	101	18	111.1	82	470
V3-2424SS	24	10	104	24	83.3	80	470
V3-483R3SS	48	6	45	3.3	400	60	470
V3-4805SS	48	6	54	5	400	77	470
V3-487R2SS	48	6	54	7.2	277.7	77	470
V3-4809SS	48	6	54	9	222.2	77	470
V3-4812SS	48	6	53	12	166.7	78	470
V3-4815SS	48	6	53	15	133.3	78	470
V3-4818SS	48	6	53	18	111.1	78	470
V3-4824SS	48	6	55	24	83.3	75	470
V3-053R3DS	5	30	367	3.3	400	72	470
V3-0505DS	5	30	512	5	400	78	470
V3-057R2DS	5	30	500	7.2	277.7	80	470
V3-0509DS	5	30	500	9	222.2	80	470
V3-0512DS	5	30	487	12	166.7	82	470
V3-0515DS	5	30	487	15	133.3	82	470
V3-0518DS	5	30	487	18	111.1	82	470
V3-0524DS	5	30	487	24	83.3	82	470
V3-123R3DS	12	20	152	3.3	400	72	470
V3-1205DS	12	20	216	5	400	77	470
V3-127R2DS	12	20	208	7.2	277.7	80	470
V3-1209DS	12	20	208	9	222.2	80	470
V3-1212DS	12	20	208	12	166.7	80	470
V3-1215DS	12	20	208	15	133.3	80	470
V3-1218DS	12	20	208	18	111.1	80	470
V3-1224DS	12	20	208	24	83.3	80	470
V3-243R3DS	24	10	76	3.3	400	72	470
V3-2405DS	24	10	105	5	400	79	470
V3-247R2DS	24	10	115	7.2	277.7	72	470
V3-2409DS	24	10	104	9	222.2	80	470
V3-2412DS	24	10	104	12	166.7	80	470
V3-2415DS	24	10	104	15	133.3	80	470
V3-2418DS	24	10	104	18	111.1	80	470
V3-2424DS	24	10	104	24	83.3	80	470

Suffix "H" means 3 Kvdc isolation
 Suffix "H5" means 5.2 Kvdc isolation

Suffix "H2" means 2 Kvdc isolation

Suffix "H4" means 4 Kvdc isolation

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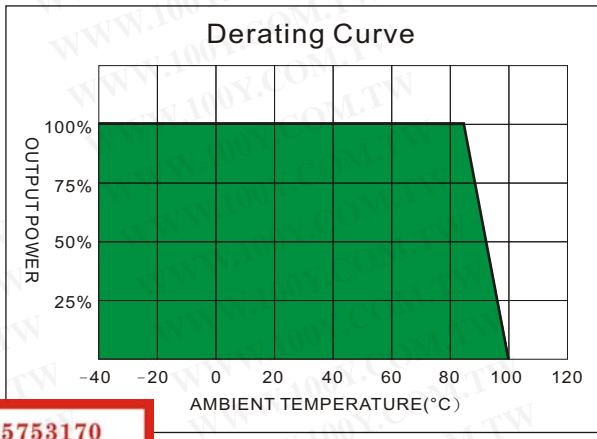
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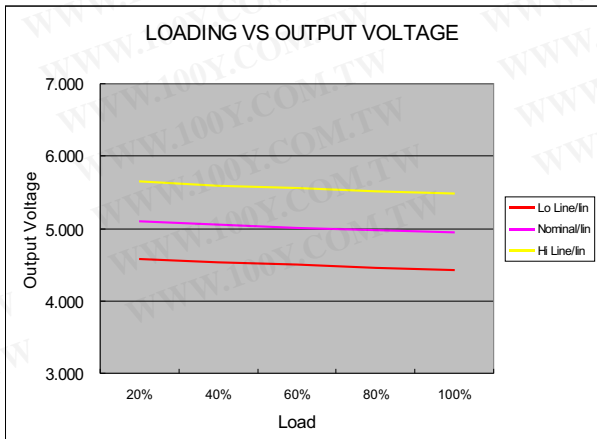
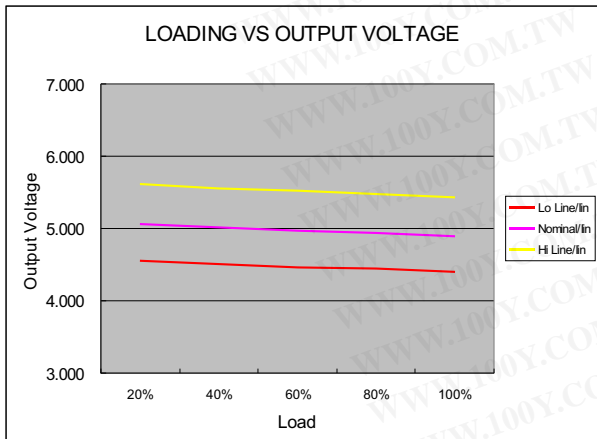
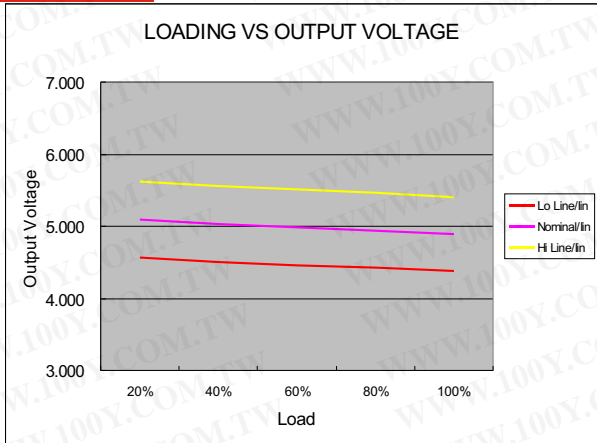
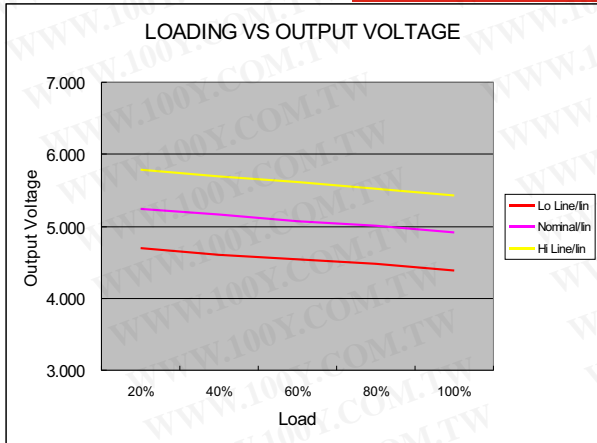
PART NUMBER STRUCTURE

V3 - 12 05 SS H

- Series Name**
- Input Voltage Range**
 - 05 - 5V
 - 09 - 9V
 - 12 - 12V
 - 15 - 15V
 - 24 - 24V
 - 48 - 48V
- Nominal Output Voltage**
 - 3R3 - 3.3V
 - 05 - 5V
 - 7R2 - 7.2V
 - 09 - 9V
 - 12 - 12V
 - 15 - 15V
 - 18 - 18V
 - 24 - 24V
- Case & Output Type**
 - S - SIP Case, Dual Output
 - D - DIP Case, Dual Output
 - SS - SIP Case, Single Output
 - DS - DIP Case, Single Output
- 3KVDC Isolation**
Optional, if no "H" suffix mean 1 KVDC Isolation



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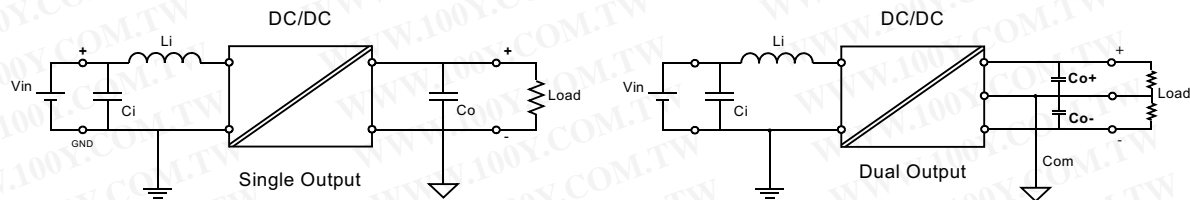
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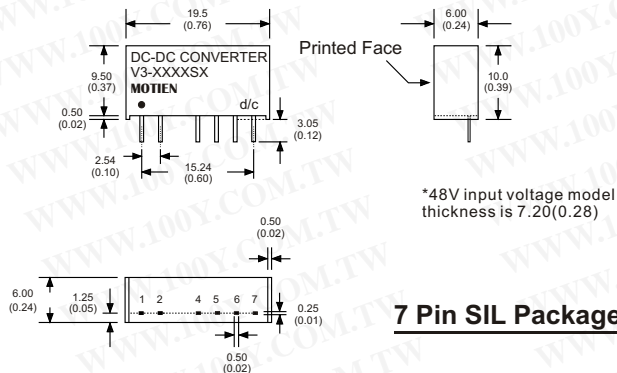
NOTE

1. Maximum value at nominal input voltage and full load.
2. Typical value at nominal input voltage and full load.
3. Test by normal input voltage and constant resistor load.
4. Ripple/Noise measured over a 20MHz bandwidth.
5. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
6. For reduce converter's ripple & noise, it is recommended to add a $4.7\mu\text{F}\sim 220\mu\text{F}$ ($\pm 4.7\mu\text{F}\sim \pm 100\mu\text{F}$ for dual output) capacitor in output end. For EMI performance improvement, it is recommended to add a $12\mu\text{H}$ inductor and a $10\mu\text{F}\sim 100\mu\text{F}$ capacitor in input end.

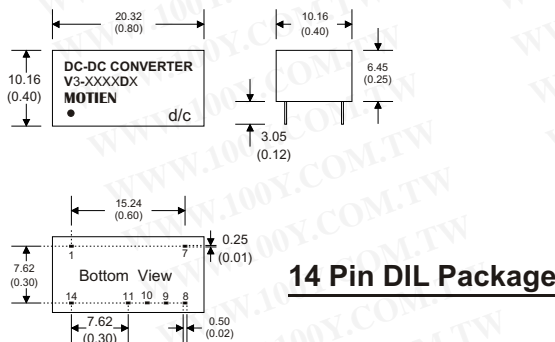
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MECHANICAL SPECIFICATIONS



PIN CONNECTIONS				
PIN NUMBER	SINGLE	DUAL	SINGLE-H	DUAL-H
1	+V Input	+V Input	+V Input	+V Input
2	-V Input	-V Input	-V Input	-V Input
4	-V Output	-V Output	N.P.	N.P.
5	N.P.	Common	-V Output	-V Output
6	+V Output	+V Output	N.P.	Common
7	N.P.	N.P.	+V Output	+V Output



PIN CONNECTIONS				
PIN NUMBER	SINGLE	DUAL	SINGLE-H	DUAL-H
1	-V Input	-V Input	-V Input	-V Input
7	N.C.	N.C.	N.C.	N.C.
8	N.P.	Common	+V Output	+V Output
9	+V Output	+V Output	N.P.	Common
10	N.P.	N.P.	-V Output	-V Output
11	-V Output	-V Output	N.P.	N.P.
14	+V Input	+V Input	+V Input	+V Input

Notes : All dimensions are typical in millimeters (inches).
 Tolerance x.xx = ± 0.25 (± 0.01)