

V7L 30W Series

30W 2:1 Regulated Single & Dual output



Features

- Wide 2:1 Input Range
- Full SMD Technology
- 1500 VDC Isolation
- Continuous Short Circuit Protection
- Efficiency up to 87%
- -40 ~ 71°C Operation Temperature Range



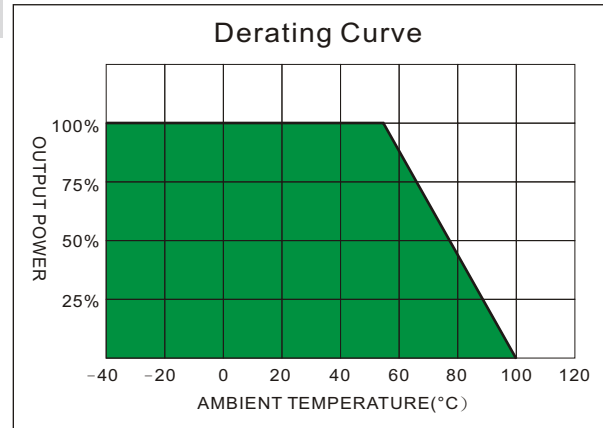
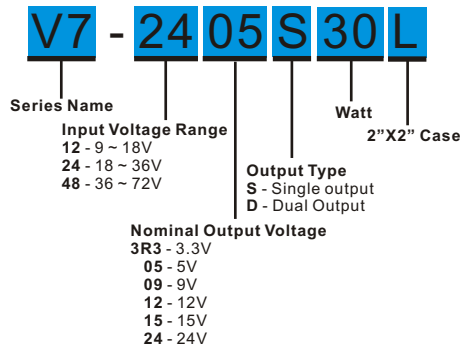
The V7 series is a family of cost effective 7.5~30W single & dual output DC-DC converters. These converters combine nickel-coated copper package in a 2"x1" and 2"x2" compatible case with high performance features such as 1500 VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation. Wide range devices operate over 2:1 input voltage range providing stable output voltage. Devices are encapsulated using flame retardant resin. Input voltages of 12, 24 and 48 with output voltage of 3.3, 5, 9, 12, 15, 24, ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 or ± 24 Vdc. High performance features include high efficiency operation up to 87% and output voltage accuracy of $\pm 1\%$ maximum. Standard features include an input range of $\pm 10\%$ tolerance and low output noise and ripple.

All specifications typical at $T_a=25^\circ\text{C}$, nominal input voltage and full load unless otherwise specified

OUTPUT SPECIFICATIONS		GENERAL SPECIFICATIONS	
Voltage Accuracy	$\pm 1\%$	Efficiency	See table
Line Regulation	$\pm 0.5\%$	I/O Isolation Voltage	
Load Regulation	$\pm 0.5\%$	I/O 1 min(flash tested for 1 sec)	1500Vdc
Ripple & Noise (20 Mhz bandwidth)	100mV pk-pk	Case/Input&Output	1000Vdc
Current Limiting	120% of max. Iout	I/O Isolation Capacity	1000 pF
Short Circuit Protection	Indefinite(Automatic Recovery)	I/O Isolation Resistance	1000M Ohm
Temperature Coefficient	$\pm 0.02\%/^\circ\text{C}$	Switching Frequency	Fixed 125KHz
Capacitor Load	See table	Humidity	95% rel H
INPUT SPECIFICATIONS		Reliability Calculated MTBF	>1.121 Mhrs
Voltage Range	See table	Safety Standard	IEC 60950-1:2001
Max. Input Current	See table	Safety Approvals	
No-Load Input Current	See table	ENVIRONMENT SPECIFICATIONS	
Input Filter	Capacitor	Operating Temperature	-40°C~55°C
Input Reflected Ripple rms thru 12uH inductor, 5Hz to 20MHz	35mA rms	Case Temperature	100°C
PHYSICAL SPECIFICATIONS		Storage Temperature	-40°C~125°C
Case Material	Nickel-coated Copper	Cooling	Nature Convection
Base Material	Epoxy encapsulayed(UL94V-0 rated)	ABSOLUTE MAXIMUM RATINGS	
Pin Material	$\Phi 1.0\text{mm}$ Brass Solder-coated	Input Voltage	
Potting Material	Epoxy (UL94V-0 rated)	12 Modes	-0.7~24 Vdc
Weight	62.0g	24 Modes	-0.7~40 Vdc
Dimensions	2.00"x2.00"x0.40"	48 Modes	-0.7~75 Vdc
EMI SPECIFICATIONS		Operating Amb. Temperature	-40°C~85°C
Radiated Emissions		Case Temperature	100°C
		Storage Temperature	-40°C~125°C
		Lead Soldering Temperature 1.5mm from case 10 sec.	260°C

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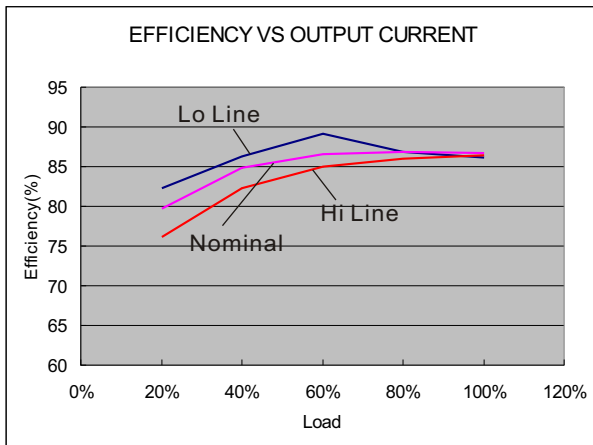
PART NUMBER STRUCTURE



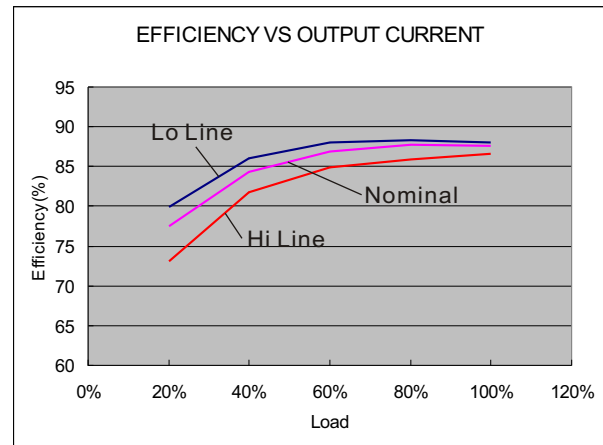
MODEL SELECTION GUIDE

MODEL NUMBER	INPUT			OUTPUT		EFFICIENCY @FL(%)	Capacitor Load(μF)
	Voltage Range (Vdc)	No-Load Current	Full Load Current	Voltage(Vdc)	Current(mA)		
V7-123R3S30L	9-18	30	2063	3.3	6000	80	15000
V7-1205S30L	9-18	30	3012	5.0	6000	83	15000
V7-1212S30L	9-18	30	2976	12.0	2500	84	1000
V7-1215S30L	9-18	30	2976	15.0	2000	84	1000
V7-1224S30L	9-18	30	2941	24.0	1250	85	680
V7-123R3D30L	9-18	30	2063	±3.3	±3000	80	±6800
V7-1205D30L	9-18	30	3048	±5.0	±3000	82	±6800
V7-1212D30L	9-18	30	2976	±12.0	±1250	84	±1000
V7-1215D30L	9-18	30	2976	±15.0	±1000	84	±330
V7-1224D30L	9-18	30	2941	±24.0	±625	85	±330
V7-243R3S30L	18-36	20	1031	3.3	6000	80	15000
V7-2405S30L	18-36	20	1470	5.0	6000	85	15000
V7-2412S30L	18-36	20	1436	12.0	2500	87	1000
V7-2415S30L	18-36	20	1436	15.0	2000	87	1000
V7-2424S30L	18-36	20	1453	24.0	1250	86	680
V7-243R3D30L	18-36	20	1031	±3.3	±3000	80	±6800
V7-2405D30L	18-36	20	1488	±5.0	±3000	84	±6800
V7-2412D30L	18-36	20	1470	±12.0	±1250	85	±1000
V7-2415D30L	18-36	20	1470	±15.0	±1000	85	±330
V7-2424D30L	18-36	20	1470	±24.0	±625	85	±330
V7-483R3S30L	36-72	15	516	3.3	6000	80	15000
V7-4805S30L	36-72	15	763	5.0	6000	83	15000
V7-4812S30L	36-72	15	726	12.0	2500	86	1000
V7-4815S30L	36-72	15	726	15.0	2000	86	1000
V7-4824S30L	36-72	15	736	24.0	1250	85	680
V7-483R3D30L	36-72	15	516	±3.3	±3000	80	±6800
V7-4805D30L	36-72	15	736	±5.0	±3000	85	±6800
V7-4812D30L	36-72	15	726	±12.0	±1250	86	±1000
V7-4815D30L	36-72	15	726	±15.0	±1000	86	±330
V7-4824D30L	36-72	15	736	±24.0	±625	85	±330

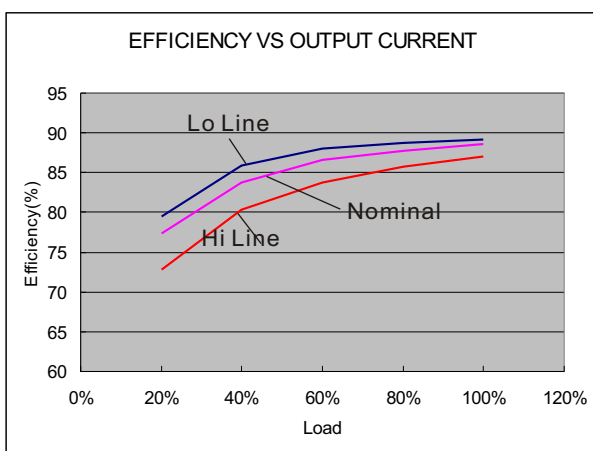
The models listed above is just for standard type. If you need the special specification product, please contact our service member by telephone presented in shortform cover or e-mail to : sales@motien.com.tw



12 Models



24 Models

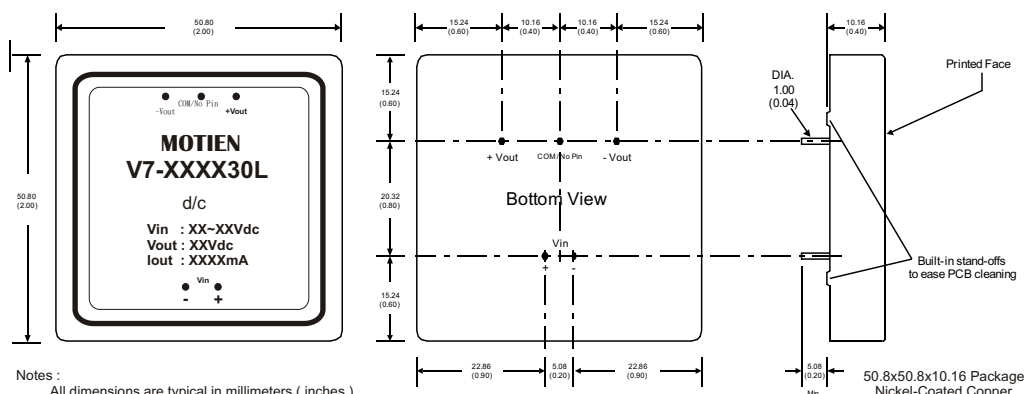


48 Models

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.

MECHANICAL SPECIFICATIONS



Notes :
All dimensions are typical in millimeters (inches).
Tolerance x.xx = ± 0.25 (± 0.01)
Typically Marked with : product name, part name, Logo and date code.

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Tolerance x.xx = ± 0.25 (± 0.01)


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