

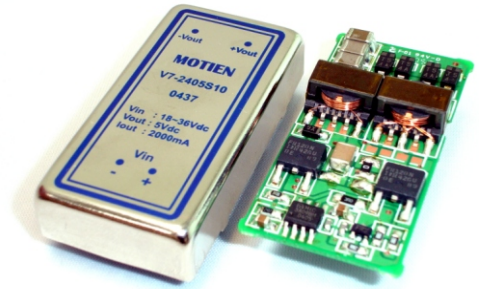
V7 - 7.5W Series



7.5W 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 86%
- -40 ~ 85°C Operation Temperature Range
- EMI Complies With EN55022 Class A



The V7 series is a family of cost effective 7.5W single & dual output DC-DC converters. These converters are made with nickle-coated brass case in a 2"x1" with high performance features such as 1500 VDC input/output isolation voltage, continuous short circuit protection with automatic restart and tight line / load regulation. Devices are encapsulated by using flame retardant resin. Input voltages of 12, 24 and 48 with output voltage of 3.3, 5, 7.2, 9, 12, 15, 18, 24, ±3.3, ±5, ±7.2, ±9, ±12, ±15, ±18, ±24 Vdc. High performance features include high efficiency operation up to 86% and output voltage accuracy of ±1% maximum.

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

OUTPUT SPECIFICATIONS	
Voltage accuracy	±1%
Line regulation	±0.5%
Load regulation (10% to 100% Loading)	±0.5%
Ripple & noise (20 MHz bandwidth)(1)	100mV pk-pk
Over-current protection	140% of max. Iout
Short circuit protection	Indefinite (Automatic Recovery)
Temperature coefficient	±0.02%/°C
Capacitor load(2)	See table

INPUT SPECIFICATIONS	
Voltage Range	See table
Start up Time (Nominal Vin and constant resistive load)	20mS, typ
Max. Input Current	See table
No-Load Input Current	See table
Input Filter	Capacitors
Input Reflected Ripple Current(3)	35mA pk-pk

GENERAL SPECIFICATIONS	
Efficiency	See table
I/O Isolation Voltage(3 sec)	
Input/Output	1500Vdc
Case/Input & Output	1000Vdc
I/O Isolation Capacitance	500 pF Typ.
I/O Isolation Resistance	1000M Ohm
Switching Frequency	Typical 200kHz
Humidity	95% rel H
Reliability Calculated MTBF (MIL-HDBK-217 F)	>1.121 Mhrs
Safety Standard : (designed to meet)	IEC 60950-1:2001

EMC SPECIFICATIONS		
Radiated Emissions	EN55022	CLASS A
	FCC 47 CFR Part 15 Subpart A	CLASS A
ESD	IEC 61000-4-2	Perf. Criteria B
RS	IEC 61000-4-3	Perf. Criteria A

PHYSICAL SPECIFICATIONS	
Case Material	Nickel-coated Brass
Pin Material	Ø1.0mm Brass Solder-coated
Potting Material	Epoxy (UL94V-0 rated)
Weight	30.0g
Dimensions	2.00"x1.00"x0.40"

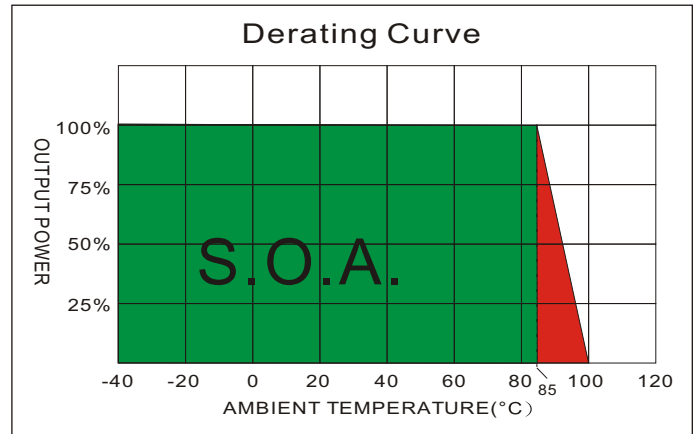
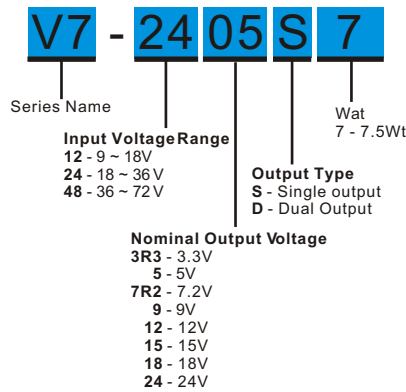
ENVIRONMENT SPECIFICATIONS	
Operating Temperature	-40°C~85°C (See Derating Curve)
Maximum Case Temperature	100°C
Storage Temperature	-40°C~125°C
Cooling	Nature Convection

ABSOLUTE MAXIMUM RATINGS(4)	
These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.	
Input Voltage (100mS)	
12 Modes	-0.7~24 Vdc
24 Modes	-0.7~40 Vdc
48 Modes	-0.7~80 Vdc
Lead Soldering Temperature (1.5mm from case 10sec.)	260°C

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PARTNUMBER STRUCTURE



MODEL SELECTION GUIDE

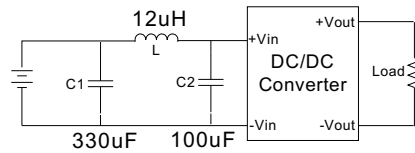
MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current		EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)		Min. load (mA)	Full load (mA)		
V7-123R3S7	9-18	30	515	3.3	150	1500	80	2200
V7-1205S7	9-18	30	771	5	150	1500	81	2200
V7-127R2S7	9-18	30	762	7.2	104	1041	82	1000
V7-1209S7	9-18	30	762	9	83	833	82	1000
V7-1212S7	9-18	30	753	12	62	625	83	680
V7-1215S7	9-18	30	753	15	50	500	83	470
V7-1218S7	9-18	30	744	18	41	416	84	470
V7-1224S7	9-18	30	735	24	31	312	85	330
V7-123R3D7	9-18	30	781	±3.3	±75	±750	80	±1000
V7-1205D7	9-18	30	771	±5	±75	±750	81	±1000
V7-127R2D7	9-18	30	762	±7.2	±52	±520	82	±680
V7-1209D7	9-18	30	762	±9	±41	±416	82	±470
V7-1212D7	9-18	30	762	±12	±31	±312	82	±470
V7-1215D7	9-18	30	753	±15	±25	±250	83	±330
V7-1218D7	9-18	30	753	±18	±20	±208	83	±220
V7-1224D7	9-18	30	744	±24	±15	±156	84	±220
V7-243R3S7	18-36	25	254	3.3	150	1500	81	2200
V7-2405S7	18-36	25	381	5	150	1500	82	2200
V7-247R2S7	18-36	25	376	7.2	104	1041	83	1000
V7-2409S7	18-36	25	372	9	83	833	84	1000
V7-2412S7	18-36	25	372	12	62	625	84	680
V7-2415S7	18-36	25	367	15	50	500	85	470
V7-2418S7	18-36	25	363	18	41	416	86	470
V7-2424S7	18-36	25	363	24	31	312	86	330
V7-243R3D7	18-36	25	254	±3.3	±75	±750	81	±1000
V7-2405D7	18-36	25	381	±5	±75	±750	82	±1000
V7-247R2D7	18-36	25	376	±7.2	±52	±520	83	±680
V7-2409D7	18-36	25	376	±9	±41	±416	83	±470
V7-2412D7	18-36	25	372	±12	±31	±312	84	±470
V7-2415D7	18-36	25	372	±15	±25	±250	84	±330
V7-2418D7	18-36	25	367	±18	±20	±208	85	±220
V7-2424D7	18-36	25	367	±24	±15	±156	85	±220

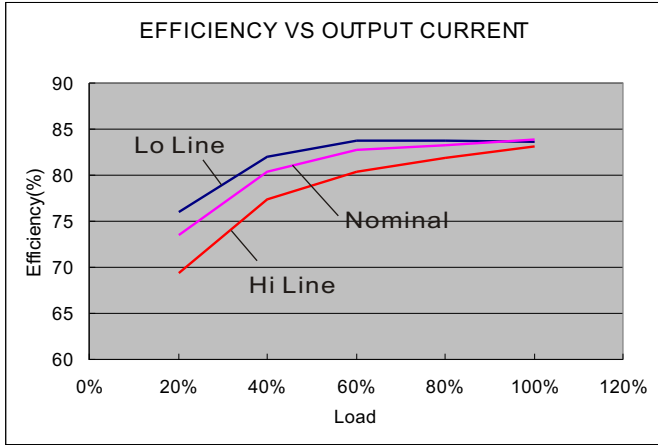
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MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current		EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)		Min. load (mA)	Full load (mA)		
V7-483R3S7	36-72	20	128	3.3	150	1500	80	2200
V7-4805S7	36-72	20	192	5	150	1500	81	2200
V7-487R2S7	36-72	20	190	7.2	104	1041	82	1000
V7-4809S7	36-72	20	190	9	83	833	82	1000
V7-4812S7	36-72	20	188	12	62	625	83	680
V7-4815S7	36-72	20	188	15	50	500	83	470
V7-4818S7	36-72	20	186	18	41	416	84	470
V7-4824S7	36-72	20	186	24	31	312	84	330
V7-483R3D7	36-72	20	128	±3.3	±75	±750	80	±1000
V7-4805D7	36-72	20	192	±5	±75	±750	81	±1000
V7-487R2D7	36-72	20	190	±7.2	±52	±520	82	±680
V7-4809D7	36-72	20	190	±9	±41	±416	82	±470
V7-4812D7	36-72	20	188	±12	±31	±312	83	±470
V7-4815D7	36-72	20	186	±15	±25	±250	84	±330
V7-4818D7	36-72	20	186	±18	±20	±208	84	±220
V7-4824D7	36-72	20	183	±24	±15	±156	85	±220

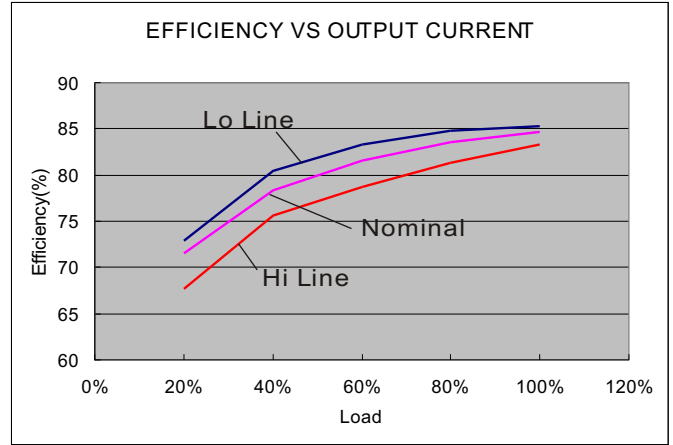
NOTE

1. Ripple/Noise measured with 20MHz bandwidth.
2. Tested by minimal V_{in} and constant resistive load.
3. Measured Input reflected ripple current with a simulated source inductance of 12uH.
4. Exceeding the absolute ratings of the unit could cause damage. It is not allowed for continuous operating.
5. Operation under no-load conditions will not damage these devices, however they may not meet all listed specifications.
6. Suggest adding input external filter (C1, C2, L) to meet conducted emissions (En55022 class A)

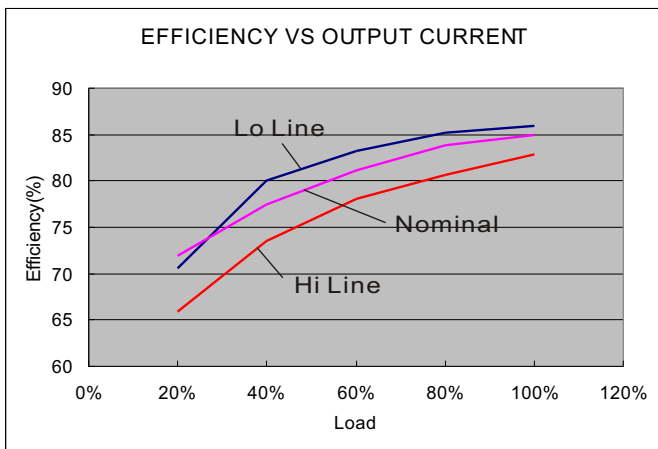




12 Models

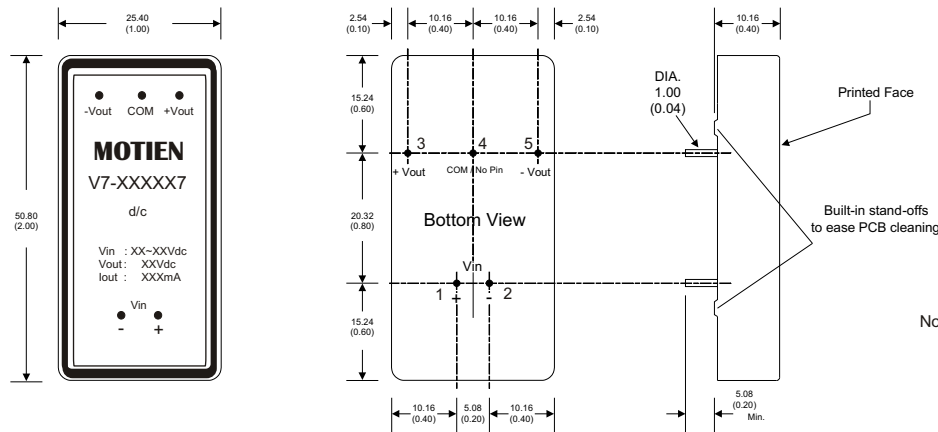


24 Models



48 Models

MECHANICAL SPECIFICATIONS



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

Notes : All dimensions are typical in millimeters (inches).
 1. Pin diameter: 1.0 ±0.05 (0.04 ±0.002)
 2. Pin pitch tolerance: ±0.35 (±0.014)
 3. Case Tolerance: ±0.5 (±0.02)