

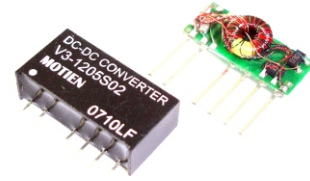
V3-S/D01(02) Series

2W Unregulated Dual Separate output



Features

- 7 Pin SIL / 14 Pin DIL Package
- 1000 VDC Isolation
- Up to 3000 VDC Isolation
- Low Ripple and Noise
- Efficiency up to 80%
- -40 ~ 85°C Operation Temperature Range
- Non-Conductive Black Plastic Case



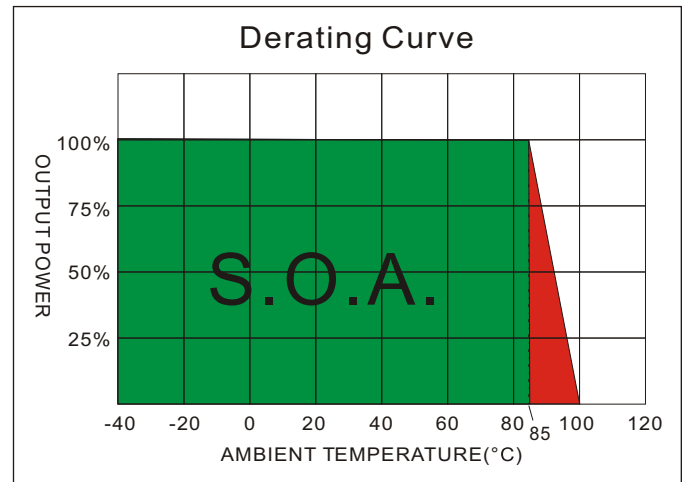
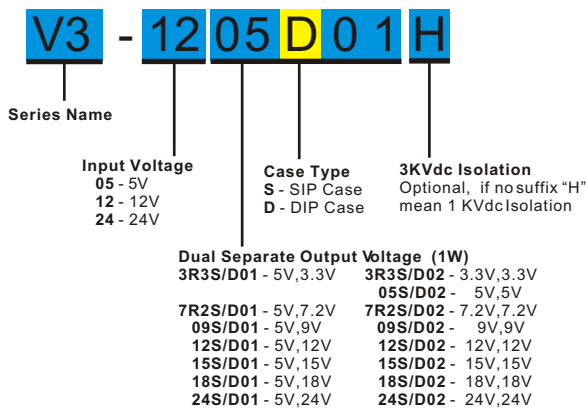
The V3 series is a family of cost effective 2W dual separate output DC-DC converters. These converters achieve low cost and ultra-miniature SIP 7 pin or DIP 14 pin size. Devices are encapsulated using flame retardant resin. The models operate from input voltage of 5, 12, 24 Vdc with output voltage of 3.3, 5.7.2, 9, 12, 15, 18, 24 Vdc. High performance features include 1000Vdc~3000Vdc input/output isolation, high efficiency operation and output voltage accuracy of $\pm 3\%$ 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		PHYSICAL SPECIFICATIONS	
Voltage accuracy	$\pm 3\%$	Case Material	Non-conductive Black Plastic (UL94V-0 rated)
Line regulation	$\pm 1.2\% / \text{Per } 1\% \text{ Vin Change}$	Pin Material	0.5mm Alloy42 Solder-coated
Load regulation	(From 20% to 100% Load) $\pm 10\%$ (Output 3.3V Model) $\pm 20\%$	Potting Material	Epoxy (UL94V-0 rated)
Ripple & noise (20 MHz bandwidth)(1)	75mV pk-pk	Weight	2.7g
Temperature coefficient	$\pm 0.02\% / ^\circ\text{C}$	Dimensions	SIP Case 0.76"x0.28"x0.39" DIP Case 0.80"x0.40"x0.27"
Capacitor load(2)	See table		
INPUT SPECIFICATIONS		ENVIRONMENT SPECIFICATIONS	
Voltage Range	$\pm 10\%$	Operating Temperature	$-40^\circ\text{C} \sim 85^\circ\text{C}$ (See Derating Curve)
Max. Input Current	See table	Maximum Case Temperature	100°C
No-Load Input Current	See table	Storage Temperature	$-40^\circ\text{C} \sim 125^\circ\text{C}$
Input Filter	Capacitors	Cooling	Nature Convection
Input Reflected Ripple Current(3)	20mA pk-pk		
GENERAL SPECIFICATIONS		ABSOLUTE MAXIMUM RATINGS(4)	
Efficiency	See table	These are stress ratings. Exposure of devices to any of these conditions may adversely affect long-term reliability.	
I/O Isolation Voltage(3 sec)		Input Voltage(100ms)	
Input/Output1&Output2	1000~3000Vdc	5 Models	0~7 Vdc
Output1/Output2	1000Vdc	12 Models	0~15 Vdc
I/O Isolation Capacitance	60 pF Typ.	24 Models	0~28 Vdc
I/O Isolation Resistance	1000M Ohm	Soldering Temperature	260°C Max.
Switching Frequency	Variable 80kHz	(1.5mm from case 10sec. Max.)	
Humidity	95% rel H		
Reliability Calculated MTBF(MIL-HDBK-217 F)	>1.121 Mhrs		
Safety Standard : (designed to meet)	IEC 60950-1		

V3 - 2W Unregulated Dual Separate output

PARTNUMBER STRUCTURE



MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage(Vdc) Output1 Output2	OUTPUT Current		EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)		Full load(mA)	Output1 Output2		
V3-053 R3S/D01	5	35	519	5 , 3.3	200 , 303		77	220
V3-057 R2S/D01	5	35	519	5 , 7.2	200 , 139		77	220
V3-05 09S/D01	5	35	519	5 , 9	200 , 111		77	220
V3-05 12S/D01	5	35	500	5 , 12	200 , 83		80	220
V3-05 15S/D01	5	35	500	5 , 15	200 , 67		80	220
V3-05 18S/D01	5	35	519	5 , 18	200 , 55		77	220
V3-05 24S/D01	5	35	519	5 , 24	200 , 41		77	220
V3-123 R3S/D01	12	25	216	5 , 3.3	200 , 303		77	220
V3-127 R2S/D01	12	25	216	5 , 7.2	200 , 139		77	220
V3-12 09S/D01	12	25	216	5 , 9	200 , 111		77	220
V3-12 12S/D01	12	25	208	5 , 12	200 , 83		80	220
V3-12 15S/D01	12	25	208	5 , 15	200 , 67		80	220
V3-12 18S/D01	12	25	216	5 , 18	200 , 55		77	220
V3-12 24S/D01	12	25	216	5 , 24	200 , 41		77	220
V3-243 R3S/D01	24	12	108	5 , 3.3	200 , 303		77	220
V3-247 R2S/D01	24	12	108	5 , 7.2	200 , 139		77	220
V3-24 09S/D01	24	12	108	5 , 9	200 , 111		77	220
V3-24 12SD/01	24	12	104	5 , 12	200 , 83		80	220
V3-24 15S/D01	24	12	104	5 , 15	200 , 67		80	220
V3-24 18S/D01	24	12	106	5 , 18	200 , 55		78	220
V3-24 24S/D01	24	12	108	5 , 24	200 , 41		77	220

- 1.Input Voltage is from 5V to 24V and Output Voltage is from 3.3V to 24V.
- 2.Suffix "H" means 3 KVdc isolation

V3 - 2W Unregulated Dual Separate output

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage(Vdc) Output1 Output2	OUTPUT Current		EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)		Full load(mA)	Output1 Output2		
V3-053 R3S/D02	5	35	519	3.3 , 3.3	303 , 303		77	220
V3-0505S/D02	5	35	512	5 , 5	200 , 200		78	220
V3-057 R2S/D02	5	35	512	7.2 , 7.2	139 , 139		78	220
V3-0509S/D02	5	35	512	9 , 9	111 , 111		78	220
V3-0512S/D02	5	35	512	12 , 12	83 , 83		78	220
V3-0515S/D02	5	35	506	15 , 15	67 , 67		79	220
V3-0518S/D02	5	35	500	18 , 18	55 , 55		80	220
V3-0524S/D02	5	35	500	24 , 24	41 , 41		80	220
V3-123 R3S/D02	12	25	216	3.3 , 3.3	303 , 303		77	220
V3-1205S/D02	12	25	216	5 , 5	200 , 200		77	220
V3-127 R2S/D02	12	25	216	7.2 , 7.2	139 , 139		77	220
V3-1209S/D02	12	25	216	9 , 9	111 , 111		77	220
V3-1212S/D02	12	25	213	12 , 12	83 , 83		78	220
V3-1215S/D02	12	25	213	15 , 15	67 , 67		78	220
V3-1218S/D02	12	25	208	18 , 18	55 , 55		80	220
V3-1224S/D02	12	25	208	24 , 24	41 , 41		80	220
V3-243 R3S/D02	24	12	106	3.3 , 3.3	303 , 303		78	220
V3-2405S/D02	24	12	106	5 , 5	200 , 200		78	220
V3-247 R2S/D02	24	12	106	7.2 , 7.2	139 , 139		78	220
V3-2409S/D02	24	12	106	9 , 9	111 , 111		78	220
V3-2412SD/02	24	12	104	12 , 12	83 , 83		80	220
V3-2415S/D02	24	12	104	15 , 15	67 , 67		80	220
V3-2418S/D02	24	12	104	18 , 18	55 , 55		80	220
V3-2424S/D02	24	12	104	24 , 24	41 , 41		80	220

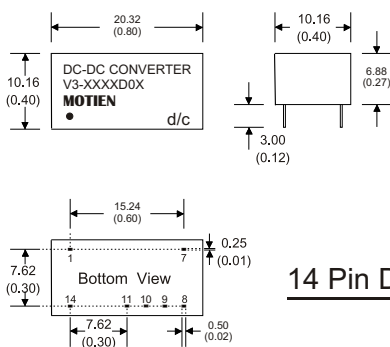
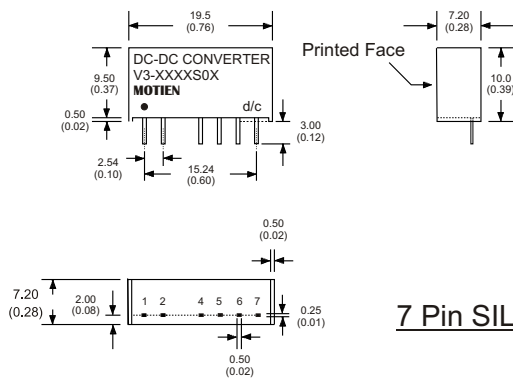
- 1.Input Voltage is from 5V to 24V and Output Voltage is from 3.3V to 24V.
- 2.Suffix "H" means 3 KVdc isolation

NOTE

- 1.Ripple/Noise measured with 20MHz bandwidth.
- 2.Tested by minimal Vin 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.

V3 - 2W Unregulated Dual Separate output

MECHANICAL SPECIFICATIONS



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

PIN CONNECTIONS	
PIN NUMBER	Dual Separate
1	+V Input
2	-V Input
4	+V1 Output
5	-V1 Output
6	+V2 Output
7	-V2 Output

(The Pin Connection of high isolation one is the same with normal one.)

PIN CONNECTIONS	
PIN NUMBER	Dual Separate
1	-V Input
7	N.C
8	-V2 Output
9	+V2 Output
10	-V1 Output
11	+V1 Output
14	+V Input

(The Pin Connection of high isolation one is the same with normal one.)