

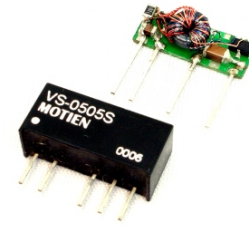
VS-1W Series

1W Unregulated Dual output



Features

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



The VS series is a family of cost effective 1W dual output DC-DC converters. These converters achieve low cost and ultra-miniature SIP6 pin size. Devices are encapsulated using flame retardant resin. The models operate from input voltage of 5, 12 Vdc with output voltage of ± 3.3 , ± 5 , ± 9 , ± 12 , ± 15 Vdc. High performance features include 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	$\pm 1.2\%$ / Per 1% V_{in} 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	1.4g
Temperature coefficient	$\pm 0.02\%/^\circ\text{C}$	Dimensions	0.65"x0.23"x0.30"
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/Output 3000Vdc	Input Voltage(100mS)	
I/O Isolation Capacitance	60 pF Typ.	5 Modes	0~7 Vdc
I/O Isolation Resistance	1000M Ohm	12 Modes	0~15 Vdc
Switching Frequency	Variable 150kHz	Lead Soldering Temperature	260°C
Humidity	95% rel H	(1.5mm from case 10sec.)	
Reliability Calculated MTBF(MIL-HDBK-217 F)	>1.121 Mhrs		
Safety Standard : (designed to meet)	IEC 60950-1		



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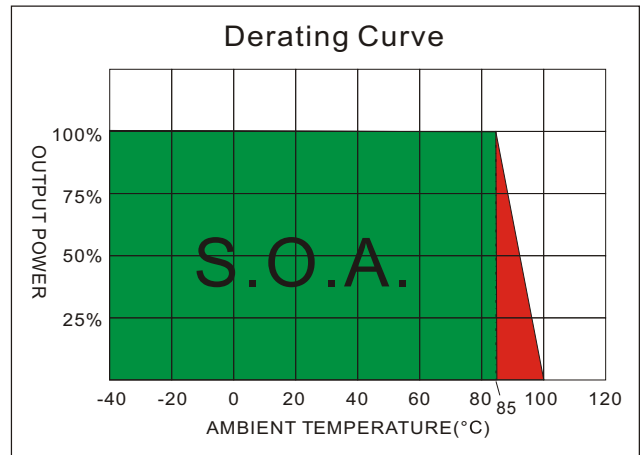
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VS - 1W Unregulated Dual output

PARTNUMBER STRUCTURE

VS - 1205S

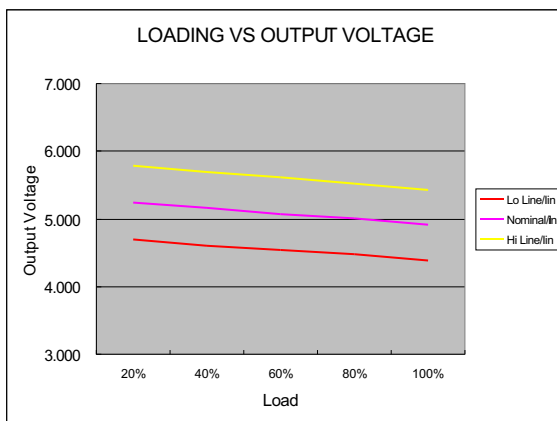
- VS**: Series Name
- 12**: Input Voltage (05 - 5V, 12 - 12V)
- 05**: Output Voltage (3R3 - 3.3V, 05 - 5V, 7R2 - 7.2V, 09 - 9V, 12 - 12V, 15 - 15V)
- S**: SIP Case



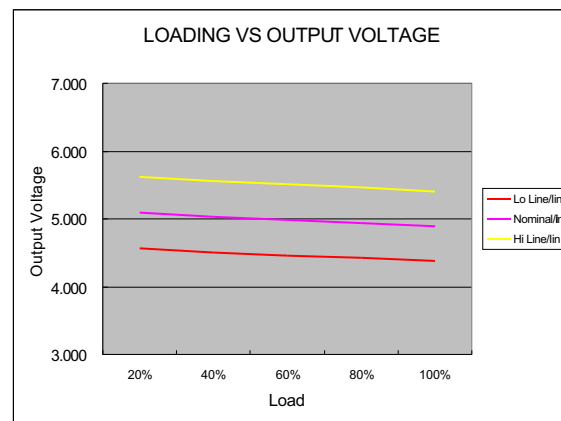
MODEL SELECTION GUIDE

MODEL NUMBER	INPUT Voltage Range (Vdc)	INPUT Current		OUTPUT Voltage (Vdc)	OUTPUT Current Full load (mA)	EFFICIENCY @FL(%)	Capacitor Load(uF)
		No-Load (mA)	Full Load (mA)				
VS-053R3S	5	30	285	±3.3	±152	70	±100
VS-0505S	5	30	273	±5	±100	73	±100
VS-057R2S	5	30	266	±7.2	±69	75	±100
VS-0509S	5	30	259	±9	±56	77	±100
VS-0512S	5	30	259	±12	±42	77	±100
VS-0515S	5	30	250	±15	±33	80	±100
VS-123R3S	12	20	115	±3.3	±152	72	±100
VS-1205S	12	20	112	±5	±100	74	±100
VS-127R2S	12	20	108	±7.2	±69	77	±100
VS-1209S	12	20	108	±9	±56	77	±100
VS-1212S	12	20	106	±12	±42	78	±100
VS-1215S	12	20	106	±15	±33	78	±100

- ### 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.



05 Models

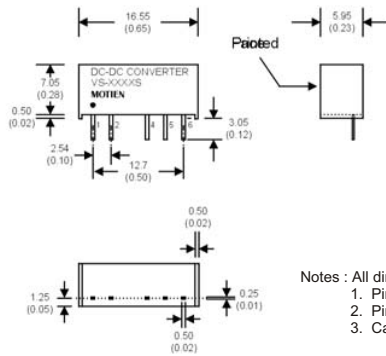


12 Models

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 : info@rsg-electronic.de

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MECHANICAL SPECIFICATIONS



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

PIN CONNECTIONS	
PIN NUMBER	SINGLE
1	+V Input
2	-V Input
4	-V Output
5	Common
6	+V Output