



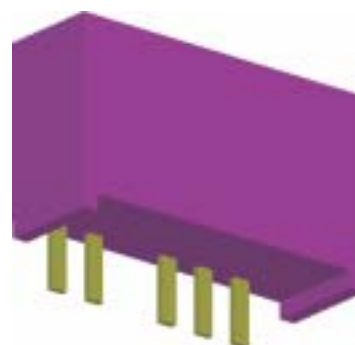
VS020 SERIES 2W UNREGULATED



● OUTPUT SPECIFICATIONS		● INPUT SPECIFICATIONS	
Voltage Set point Accuracy	+/-2% max	Input Voltage Range	+/-10% max
Temperature Coefficient	+/-0.03%/ °C	Input Filter	Capacitor Type
Ripple & Noise (20MHz BW)	100mVp-p max	Input Reflected Ripple Current	50mA-p-p max
Line Regulation ¹	+/-1.2% max	● GENERAL SPECIFICATIONS	
Load Regulation ²	+/-8% max		
Short Circuit Protection	Momentary	Efficiency	70%-85%
● ENVIRONMENTAL SPECIFICATIONS		Transient Response(Full to 1/2 Load)	<100uSec
		Isolation Voltage ³	1000 VDC min
		Isolation Resistance	10 ⁹ ohms min
		Switching Frequency	100 KHz min
Operating Temperature	-25 °C to +71 °C	Isolation Capacitance	80pF max
Storage Temperature	-55 °C to +125 °C	MTBF	1,800,000 Hours
Cooling	Free-Air Convection	Weight	2.3g Typ
ALL SPECIFICATIONS TYPICAL AT NOMINAL LINE, FULL LOAD , AND 25 °C UNLESS OTHERWISE NOTED.		Case Material	Non-Conductive Plastic
		Case Size	19.6mm*7.1mm*10.2mm

FEATURES

- 1000VDC ISOLATION
- EFFICIENCY UP TO 85%
- INTERNAL SMD TECHNOLOGY
- LOW COST
- NO HEATSINK REQUIRED
- UP TO 2W UNREGULATED OUTPUT POWER
- SINGLE IN LINE PACKAGE
- 100% BURNED IN
- MTBF > 1,800,000 HOURS



¹ Line Regulation is for a 1.0% change in input Voltage.

² Load Regulation is for output load current change from 20% to 100%.

³ For 10 seconds



● SELECTION GUIDE

2W OUTPUT

MODEL NUMBER	INPUT VOLTAGE (VDC)	OUTPUT VOLTAGE (VDC)	OUTPUT CURRENT (mA)	INPUT CURRENT(mA)		EFF (%)	ISOLATION (VDC)
				FULL LOAD	NO LOAD		
VS016-0503.3S	5	3.3	500	452	40	73	1000
VS020-0505S	5	5	400	520	40	77	1000
VS020-0509S	5	9	222	506	40	79	1000
VS020-0512S	5	12	167	500	40	80	1000
VS020-0515S	5	15	133	488	40	82	1000
VS020-0505D	5	+/-5	+/-200	520	40	77	1000
VS020-0512D	5	+/-12	+/-84	500	40	80	1000
VS020-0515D	5	+/-15	+/-67	488	40	82	1000
VS016-1203.3S	12	3.3	500	185	15	74	1000
VS020-1205-S	12	5	400	214	15	78	1000
VS020-1209S	12	9	222	214	15	78	1000
VS020-1212S	12	12	167	200	15	83	1000
VS020-1215S	12	15	133	196	15	85	1000
VS020-1205D	12	+/-5	+/-200	214	15	78	1000
VS020-1212D	12	+/-12	+/-84	200	15	83	1000
VS020-1215D	12	+/-15	+/-67	196	15	85	1000
VS016-2403.3S	24	3.3	500	92	10	74	1000
VS020-2405S	24	5	400	107	10	78	1000
VS020-2409S	24	9	222	107	10	78	1000
VS020-2412S	24	12	167	103	10	81	1000
VS020-2415S	24	15	133	101	10	83	1000
VS020-2405D	24	+/-5	+/-200	107	10	78	1000
VS020-2412D	24	+/-12	+/-84	103	10	81	1000
VS020-2415D	24	+/-15	+/-67	101	10	83	1000

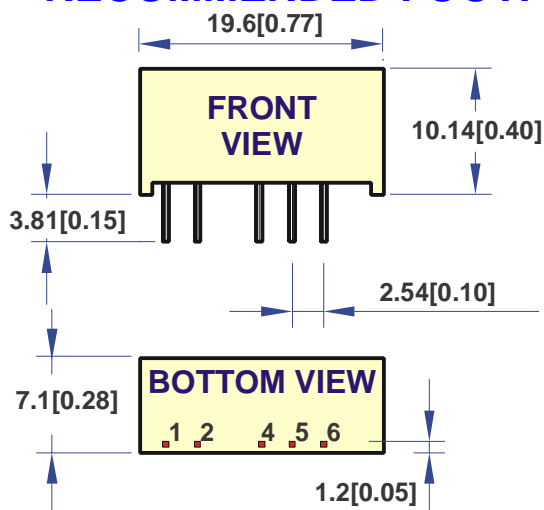
Note: Other input to output voltages may be available. Please contact factory.

ORDERING INFORMATION:

FOR EXAMPLE: VS020-****S(2W SINGLE OUTPUT)

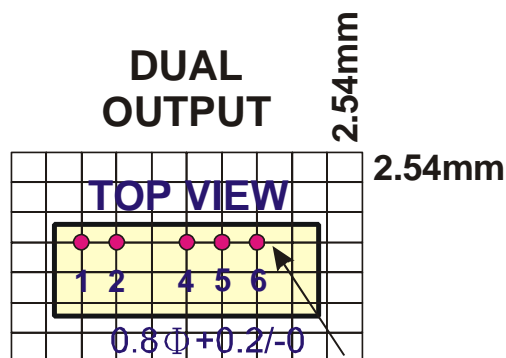
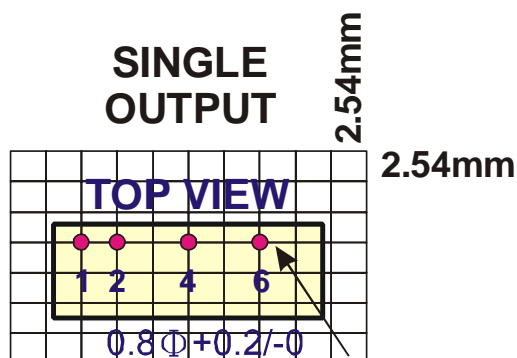
VS020-****D(2W DUAL OUTPUT)

MECHANICAL DIMENSIONS & RECOMMENDED FOOTPRINT DETAILS

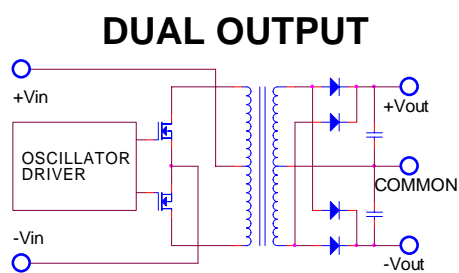
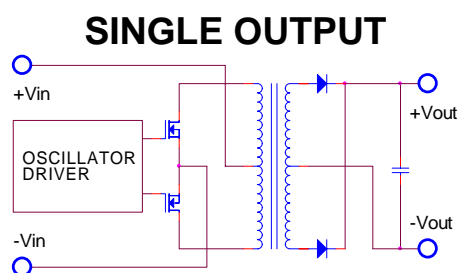


PIN	SINGLE	DUAL
1	+Vin	+Vin
2	-Vin	-Vin
4	-Vout	-Vout
5	NP	COMMON
6	+Vout	+Vout

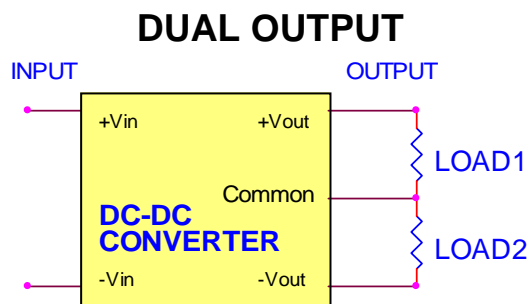
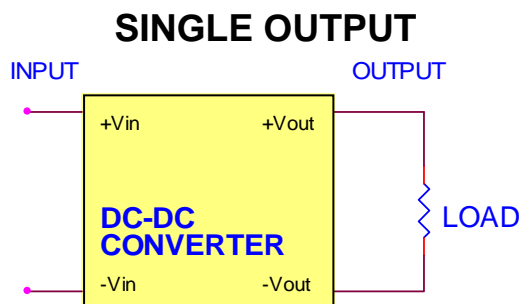
All dimensions are in mm[inches]



SIMPLIFIED SCHEMATIC



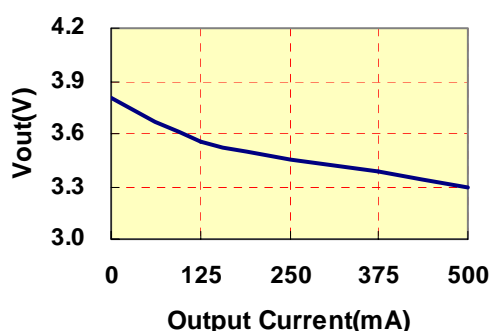
● TYPICAL APPLICATIONS



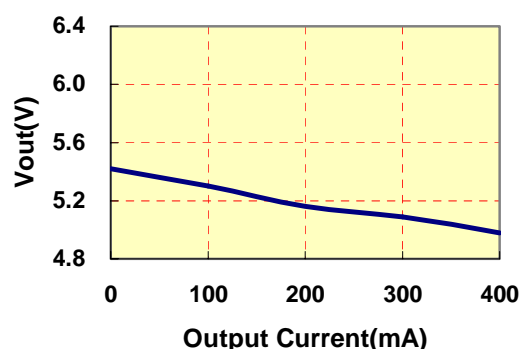
● TYPICAL PERFORMANCE CUREVES

Specifications typical at TA=25 °C, nominal input voltage , rated output current unless otherwise specified.

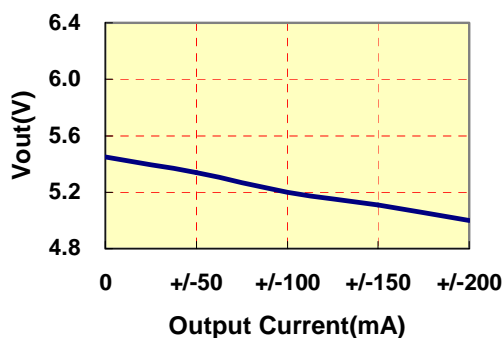
VOU VS LOAD(3.3Vout Models)



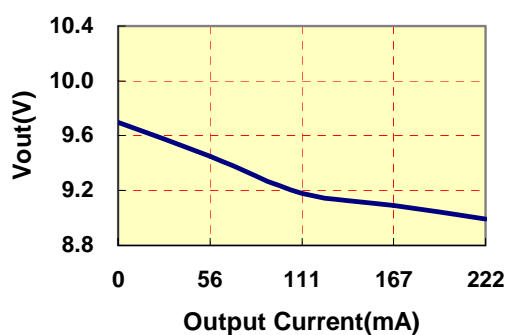
VOU VS LOAD(5Vout Models)



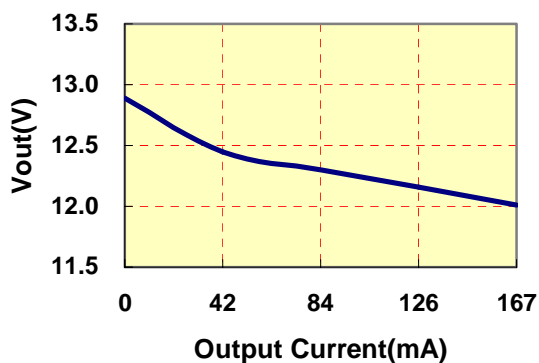
VOU VS LOAD(+/- 5Vout Models)



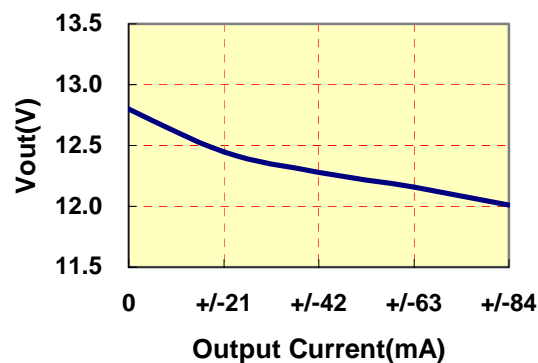
VOU VS LOAD(9Vout Models)



VOU VS LOAD(12Vout Models)



VOU VS LOAD(+/- 12Vout Models)



VOU VS LOAD(15Vout Models)

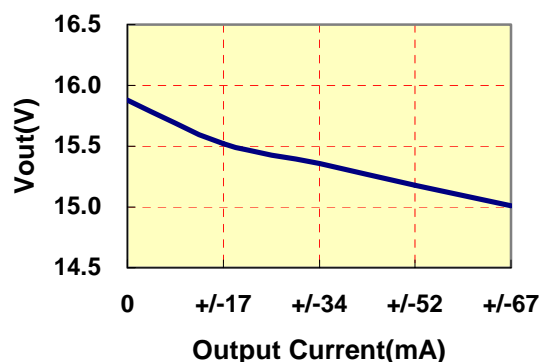
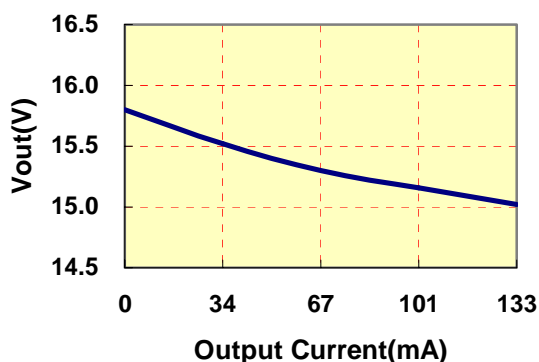
VOU VS LOAD(+/- 15Vout Models)



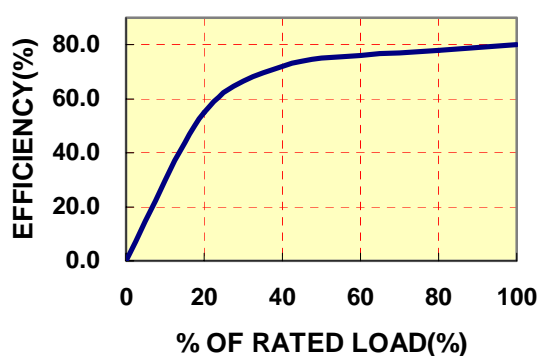
VS020 SERIES

2W UNREGULATED

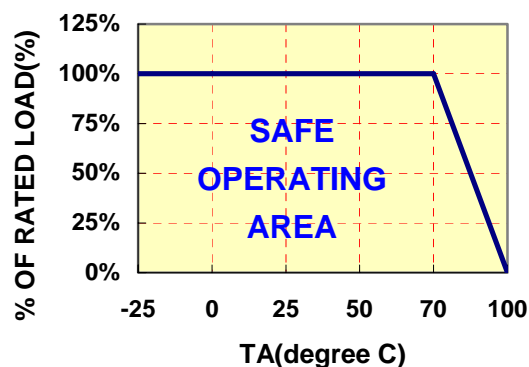




EFFICIENCY VS LOAD



DERATING CURVE



VS020 SERIES APPLICATION NOTES:

EXTERNAL CAPACITANCE REQUIREMENTS:

Output filtering is required for operation. A minimum of 10uF is needed. Output capacitance may be increased for additional filtering, not to exceed 220uF.

To meet the reflected ripple requirements of the converter, an input impedance of less than 0.5ohm from DC to 250KHz is required.

We Can Offer EMC-Filter According To EN55011/22 Class B.

Negative Outputs:

A negative output voltage may be obtained by connecting the +OUT to circuit ground and connecting -OUT as the negative output.