



SVRA_D-20W SVRB_D-20W Series

20W, WIDE INPUT, ISOLATED & REGULATED
SINGLE&DUAL OUTPUT DC-DC CONVERTER



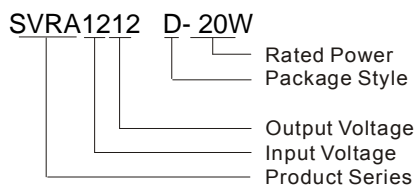
FEATURES

- Efficiency up to 87%
- Wide (2:1) Input Range
- 1.5KVDC Input/Output Isolation
- Over Voltage protection
- Output Short Circuit Protection
- Operating Temperature: -40°C to +71°C
- internal SMD construction
- Metal Shielding Package
- industry Standard Pin out
- MTBF>1,000,000 hours
- RoHS Compliance

Application

The SVRA_D-20W & SVRB_D-20W series offer 20W of output, the SVRA_D-20W & SVRB_D-20W series with 2:1 wide input voltage of 9-18,18-36 and 36-75VDC and features 1500VDC isolation, short-circuit and over current protection, as well as six sided shielding. All models are particularly suited to tele-communications, industrial, test equipments power.

MODEL SELECTION



PRODUCT PROGRAM

Part Number	Input		Output		Efficiency (% Typ)	capacitance (max,UF)				
	Voltage (VDC)		Voltage (VDC)	Current (mA)						
	Nominal	Range								
SVRA1205D-20W	12	9-18	±5	±2000	80	±3400				
SVRA1212D-20W			±12	±833	82	±680				
SVRA1215D-20W			±15	±666	82	±450				
SVRA1224D-20W			±24	±416	83	±220				
SVRB1203D-20W			9-18	9-18	3.3	5400	86	13000		
SVRB1205D-20W					5	4000	79	6800		
SVRB1212D-20W					12	1666	81	2200		
SVRB1215D-20W					15	1333	82	755		
SVRB1224D-20W					24	833	83	500		
SVRA2405D-20W					24	18-36	±5	±2000	81	±3400
SVRA2412D-20W							±12	±833	86	±680
SVRA2415D-20W							±15	±666	86	±450
SVRA2424D-20W	±24	±416					86	±220		
SVRB2403D-20W	18-36	18-36					3.3	5400	86	13000
SVRB2405D-20W							5	4000	81	6800
SVRB2412D-20W							12	1666	83	2200
SVRB2415D-20W			15	1333			85	755		
SVRB2424D-20W			24	833			85	500		
SVRA4805D-20W			48	36-75			±5	±2000	81	±3400
SVRA4812D-20W							±12	±833	86	±680
SVRA4815D-20W							±15	±666	86	±450
SVRA4824D-20W					±24	±416	86	±220		
SVRB4803D-20W					36-75	36-75	3.3	5400	87	13000
SVRB4805D-20W							5	4000	83	6800
SVRB4812D-20W							12	1666	84	2200
SVRB4815D-20W	15	1333					84	755		
SVRB4824D-20W	24	833					86	500		

*Designing.

INPUT SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Start voltage	12Vinput models	8.6	8.8	9	VDC
	24Vinput models	17.5	17.8	18	
	48Vinput models	34	35	36	
Input filter		L-C			
Start up time			20		MS
Method of Remote (Reference point: GND)	on	3.5-40VDC or open circuit			
	off	GND or Low Voltage(<1.2V)			

OUTPUT SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	Refer to recommended circuit		±1	±3	%
Load regulation	From 10% to 100% load		±0.5	±1	
Line regulation	Input voltage from low to high		±0.2	±0.5	
Cross regulation				±5	
Ripple and noise	Tested under 20MHz band	50	75	150	
Transient recovery time	25%load change		200	300	us
Transient peak deviation				±2	±5
Over load protection*	Input voltage range	120	130	150	%
Output Short Circuit	Hiccup, automatics recovery				
Over voltage protection	3.3V	3.63		4.29	VDC
	5V	5.5		6.5	
	12V	13.2		15.6	
	15V	16.5		19.5	
	24	26.4		31.2	
Temperature drift (Vout)			0.02		%/□
Trim			±10%Vo		VDC

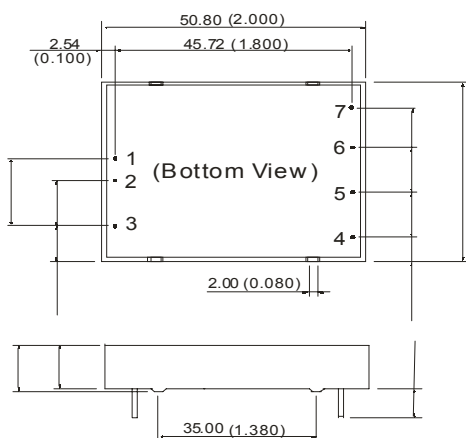
COMMON SPECIFICATIONS

Item	Test conditions	Min	Typ	Max	Units
Operating Temperature		-40		71	□
Storage Temperature		-55		105	
Storage Humidity		5		95	
Isolation voltage	Test for 1 minute and 1 mA max		1500		VDC
Isolation resistance			500		MΩ
Isolation Capacitance	100KHz / 1V		1000		pF
Switching frequency	Nominal, full load		300		KHz
MTBF			100		K hours
Case Material	Aluminous alloy				
Weight			39		G

Note:

- All specifications are measured at TA=25°C, humidity<75%, nominal input voltage and rated output load unless otherwise specified.
- The CTRL control pin voltage is referenced to GND.
- Typical Eff value at nominal input voltage and full load.
- Capacitor MAX load tested at nominal input voltage and constant resistive load.
- Refer to the diagram of Output Voltage trim up/down for trim applications.
- The products cannot be used in parallel and in plug and play.

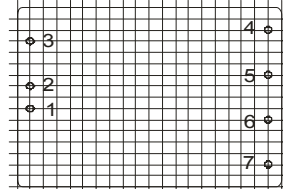
OUTLINE DIMENSIONS & FOOTPRINT DETAILS



Note:
 Unit:mm (inch)
 Pin section: 1.00mm(0.039inch)
 Pin section to lances: ±0.05 mm(±0.002inch)
 General tolerances: ±0.25mm(±0.010inch)

First Angle Projection

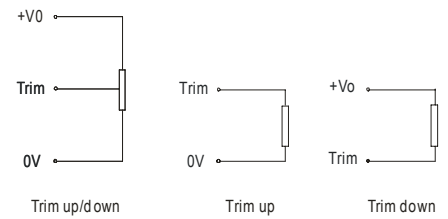
RECOMMENDED FOOTPRINT
 Top view, grid: 2.54mm(0.1inch),
 diameter: 1.50mm(0.059inch)



FOOTPRINT DETAILS

Pin	Single	Dual
1	Vin	Vin
2	GND	GND
3	Ctrl	Ctrl
4	Trim	Trim
5	0V	-Vo
6	+Vo	Com
7	No pin	+Vo

OUTPUT VOLTAGE TRIM



RECOMMENDED CIRCUIT

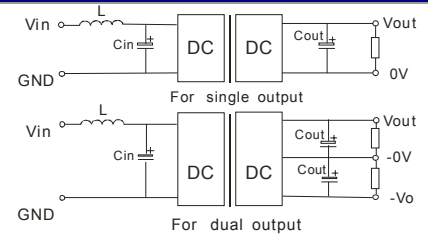
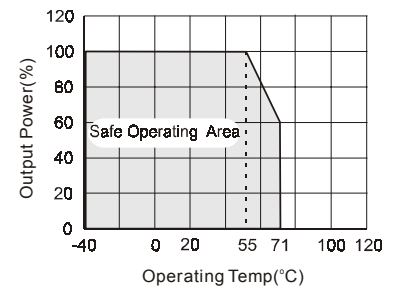


Fig.1

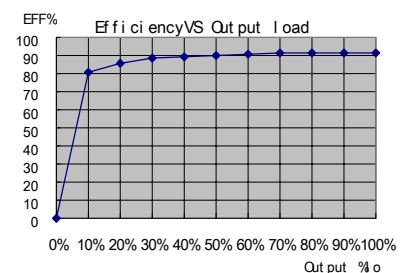
In order to obtain better performance for the DC/DC models, it's recommended that use input and output filters as Fig.1 shown..

DERATING & EFFICIENCY CURVE

Temperature derating curve



Curve of Efficiency VS output load SVRA2412D-20W



Curve of Efficiency VS input Voltage SVRA2412D-20W

