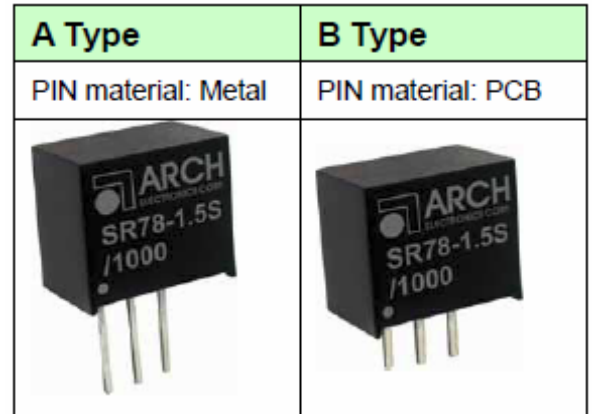


SR78 Series

1 A Encapsulated DC/DC Converter

CoolPower
Solutions

- SIP-Package Fits Existing TO-220 Footprint
- Pin Compatible with LMxx Linear Regulators
- Efficiency up to 96%, Non Isolated, No Need for Heatsinks
- Wide Input Operating (4.6V~36V)
- Non Standard Outputs Available as Specials Between 1.5V~15V
- Short Circuit Protection
- Over-Current Protection & Over-Temperature protection



Electrical specification

Model No. (Single Output)	SR78-1.5 S/1000	SR78-1.8 S/1000	SR78-2.5 S/1000	SR78-3.3 S/1000	SR78-5 S/1000	SR78-6.5 S/1000	SR78-9 S/1000	SR78-12 S/1000	SR78-15 S/1000		
Max Output Wattage (W)	1.5W	1.8W	2.5W	3.3W	5.0W	6.5W	9.0W	12 W	15 W		
Input	Input Voltage Range (V.DC.)(Note 1)		4.6-36V	4.6-36V	4.6-36V	4.75-36V	6.5-36V	8.0-36V	11-36V	15-36V	18-34V
	Nominal input		9 VDC			12 VDC		24 VDC			
	Input filter		C filter								
Output	Voltage (V.DC.)		1.5V	1.8V	2.5V	3.3V	5.0V	6.5V	9.0V	12 V	15 V
	Voltage Accuracy		±3% at Full Load								
	Current (mA) (max)		1000								
	Quiescent Current (mA) (max.)		1~2 (Vin=min. to max. at 0% Load)								
	Minimum Load (Note 2)		0%								
	Efficiency(Min. Vin) (typ.)		76%	80%	85%	88%	93%	93%	95%	95%	96%
	Efficiency(Max. Vin) (typ.)		66%	71%	76%	80%	85%	87%	90%	92%	93%
	Line Regulation (LL-HL) (typ.)		±0.4% (at full load)								
	Load Regulation (10-100%) (typ.)		±0.8% (Nominal input)								
	Ripple&Noise (Nominal Input) (20MHz)		50mV				75mV		100mV	120mV	
Switching Frequency (typ.)		500KHz									
Capacitor Load (max)		470uF									
Protection	Current Limit (mA) (max.)		2000								
	Short Circuit Protection		Continuous, auto-recovery								
	Thermal Shut Down (typ.)		+160°C (Internal IC Junction)								
Environment	Operating Temperature		-40°C...+85°C (with derating)								
	Storage Temperature		-55°C...+125°C								
	Operating Case Temperature		+100°C max.								
	Case Thermal Impedance (max.)		70°C / W								
	Humidity		95% RH								
	MTBF		5,358,000 h @ 25°C (MIL-HDBK-217F)								
Physical	Dimension (L x W x H)		0.45 x 0.40 x 0.3 Inches (11.5 x 10.2 x 7.55 mm) Tolerance ±0.25 mm								
	Case Material		Non-conductive black plastic								
	Weight		1.9 g								
EMC	Conducted Emissions		EN 55022 Class A(Note3)								
	Radiated Emissions		EN 55022 Class A(Note3)								
	Conducted Emissions		EN 55022 Class B(Note4)								
	Radiated Emissions		EN 55022 Class B(Note4)								

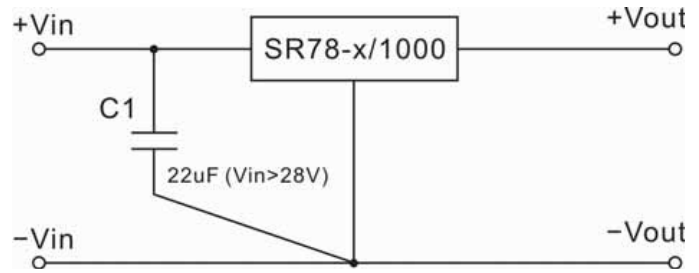
All specifications are typical at nominal input voltage, full load and +25°C unless otherwise noted.

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1 A Encapsulated DC/DC Converter

Note 1.

Input capacitor needed only if $V_{in} > 28VDC$

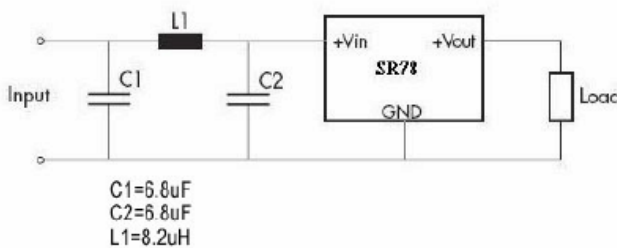


Note 2.

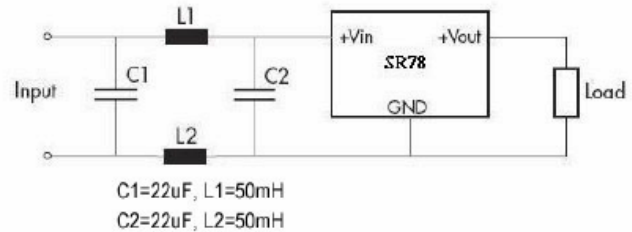
a. The input voltage minus the output voltage should be greater than 3 VDC, if less, a 3% minimum load is required for proper regulation.

b. For SR78-1.5S or SR78-1.8S models, Inputs greater than 28VDC require 3% minimum load for proper regulation.

Note 3.



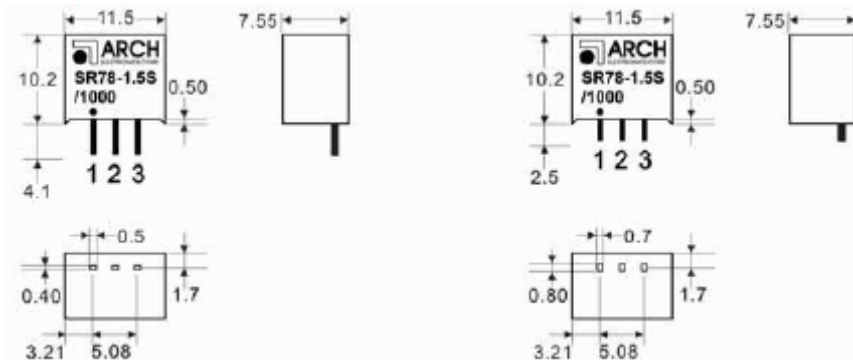
Note 4.



Mechanical Specifications (top view)

A Type

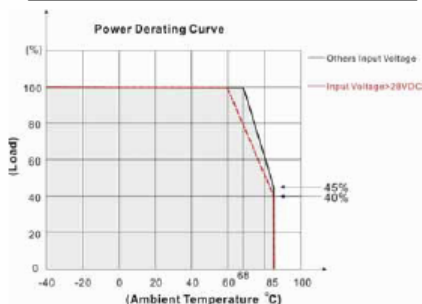
B Type



Pin no	Single
1	+Vin
2	GND
3	+Vout

Derating

SR78-1.5S, 5S, 1.8S, 2.5S, 3.3S



SR78-6.5S, 9S, 12S, 15S

