

## KEY FEATURES

- 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
- UL94V-0 Package Material
- Meet EN55022 Class A Conducted Emissions& Radiated Emissions(Note 3)
- Meet EN55022 Class B Conducted Emissions& Radiated Emissions(Note 4)
- 2 Years Product Warranty



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

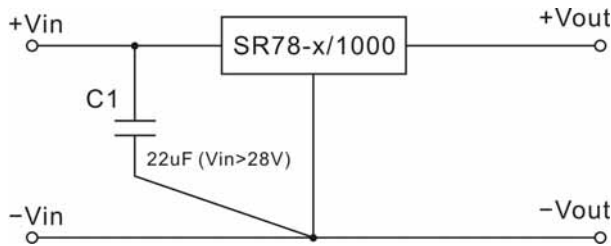
## ELECTRICAL SPECIFICATIONS

Model No. ( Single Output )	SR78-1.5S/1000	SR78-1.8S/1000	SR78-2.5S/1000	SR78-3.3S/1000	SR78-5S/1000
Max Output Wattage (W)	1.5W	1.8W	2.5W	3.3W	5W
Input Voltage Range (V.DC.)	4.6-30V	4.6-36V	4.6-36V	4.75-36V	6.5-36V
Output Voltage (V.DC.)	1.5V / 1000mA	1.8V / 1000mA	2.5V / 1000mA	3.3V / 1000mA	5.0V / 1000mA
Efficiency(Min. Vin) (typ.)	76%	80%	85%	88%	93%
Efficiency(Max. Vin) (typ.)	66%	71%	76%	80%	85%

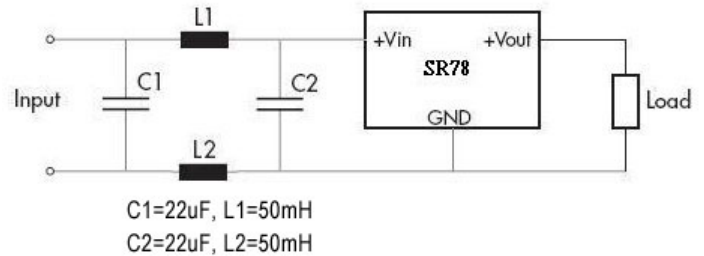
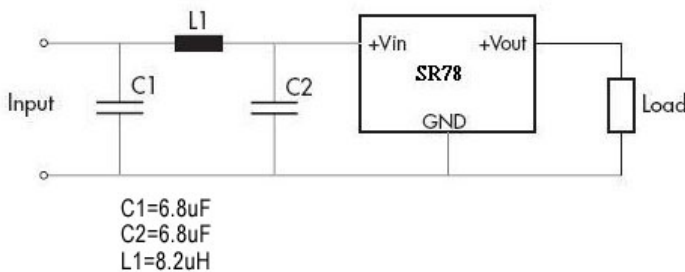
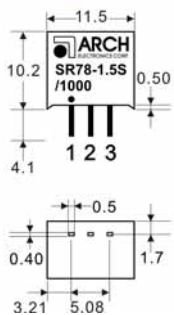
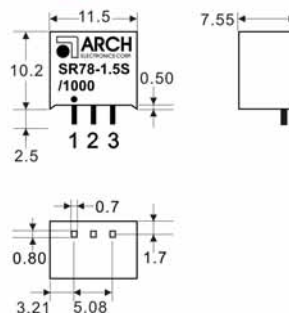
Model No. ( Single Output )	SR78-6.5S/1000	SR78-9S/1000	SR78-12S/1000	SR78-15S/1000
Max Output Wattage (W)	6.5W	9W	12W	15W
Input Voltage Range (V.DC.)	8.0-36V	11-36V	15-36V	18-34V
Output Voltage (V.DC.)	6.5V / 1000mA	9.0V / 1000mA	12V / 1000mA	15V / 1000mA
Efficiency(Min. Vin) (typ.)	93%	95%	95%	96%
Efficiency(Max. Vin) (typ.)	87%	90%	92%	93%

Model No. ( Single Output )	SR78-1.5 S/1000	SR78-1.8 S/1000	SR78-2.5 S/1000	SR78-3.3 S/1000	SR78-5S /1000	SR78-6.5 S/1000	SR78-9S /1000	SR78-12 S/1000	SR78-15 S/1000											
Max Output Wattage (W)	1.5W	1.8W	2.5W	3.3W	5W	6.5W	9W	12W	15W											
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	12V	15V	
	Voltage Accuracy (at Full Load)										±2%									
	Current (mA) (max.)										1000									
	Quiescent Current (mA) (max.)										1~2 (Vin=min. to max. at 0% Load)									
	Minimum Load (Note 2)										0%									
	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									
Physical	MTBF										5,358,000 h @ 25°C (MIL-HDBK-217F)									
	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									
EMC	Weight										1.9 g									
	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)										

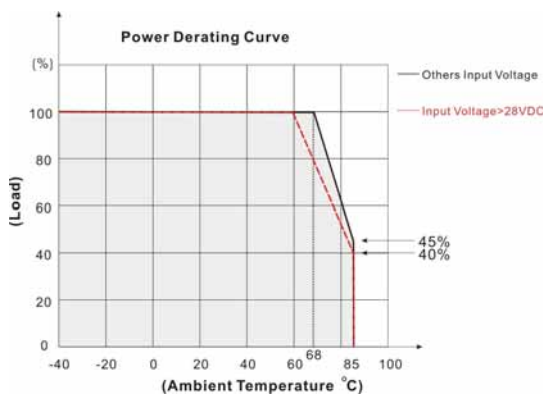
**Note 1:**

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

**Note 2:**

- The input voltage minus output voltage should be bigger than 3VDC, if smaller than 3VDC requires 3% minimum load.
- For SR78-1.5S or SR78-1.8S model, if the input voltage is bigger than 28VDC, will require 3% minimum load.

**Note 3:**
**Note 4:**

**MECHANICAL DIMENSION ( Top View )**
**TYPE A**

**TYPE B**


PIN#	Single
1	+VIN
2	GND
3	+VOUT

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

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