0.5–1 Amps
SR Series

- 3 Pin SIP 3T Switching Regulator
- Wide Input Range
- Continuous Short–circuit Protection
- Pin Compatible with LM78MXX
- Efficiency up to 97%
- –40 °C to +85 °C Operating Temperature
- 3 Year Warranty

Specification

Input

Input Voltage Range	• See table
Input Current	• See table
Input Reflected Ripple	• SR05: 35 mA pk-pk, SR10: 40 mA pk-pk, through 12 µH inductor, 5 Hz to 20 MHz
Input Filter	• External capacitor (see application notes)

Output

Output Voltage	• See table
Minimum Load	• No minimum load required
Line Regulation	• ±0.5% max
Load Regulation	• ±0.6% from 10% to 100% load
Setpoint Accuracy	• ±2%
Turn-on Time	• See note 6
Ripple & Noise	• 60 mV pk-pk with 10% minimum load, 20 MHz bandwidth
Maximum Capacitive Load	• 220 µF
Short Circuit Protection	• Indefinite (automatic recovery)
Temperature Coefficient	• 0.02%/°C

General

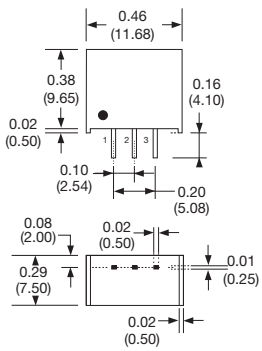
Efficiency	• See table
Isolation Voltage	• Non-isolated
Switching Frequency	• 330 kHz typical
Package Style	• 3 pin SIP
MTBF	• >4.5 MHrs to MIL-HDBK-217F at 25 °C, GB

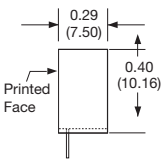
Environmental

Operating Temperature	• SR05: -40 °C to +85 °C, SR10: -40 °C to +60 °C,
Operating Humidity	• 95% RH
Case Temperature	• +100 °C max
Storage Temperature	• -40 °C to +125 °C
Cooling	• Convection-cooled

Input Voltage	No Load Input Current	Output Voltage	Output Current	Efficiency[5]	Model Number
4.75-34 VDC	10 mA	1.5 V	500 mA	64-79%	SR05S1V5
4.75-34 VDC	10 mA	1.8 V	500 mA	66-82%	SR05S1V8
4.75-34 VDC	10 mA	2.5 V	500 mA	72-87%	SR05S2V5
4.75-34 VDC	10 mA	3.3 V	500 mA	77-91%	SR05S3V3
6.50-34 VDC	10 mA	5.0 V	500 mA	83-94%	SR05S05
8.00-34 VDC	10 mA	6.5 V	500 mA	85-95%	SR05S6V5
9.00-34 VDC	10 mA	7.2 V	500 mA	86-95%	SR05S7V2
11.00-34 VDC	10 mA	9.0 V	500 mA	88-96%	SR05S09
15.00-34 VDC	10 mA	12.0 V	500 mA	91-96%	SR05S12
18.00-34 VDC	10 mA	15.0 V	500 mA	92-97%	SR05S15
4.75-18 VDC	15 mA	1.5 V	1000 mA	71-78%	SR10S1V5
4.75-18 VDC	15 mA	1.8 V	1000 mA	75-82%	SR10S1V8
4.75-18 VDC	15 mA	2.5 V	1000 mA	80-87%	SR10S2V5
4.75-18 VDC	15 mA	3.3 V	1000 mA	83-90%	SR10S3V3
6.50-18 VDC	15 mA	5.0 V	1000 mA	88-93%	SR10S05

Mechanical Details

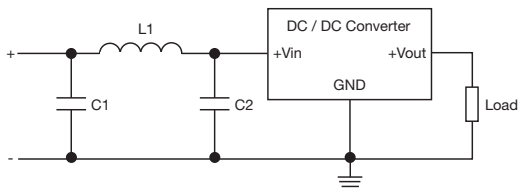




Pin Connections	
Pin	Function
1	+Vin
2	GND
3	+Vout

Application Notes

Input Filer to meet Class B Conducted Emissions



C1	L1	C2
470 µF, 35 V	6.4 µH	470 µF, 35 V

Notes

1. All dimensions in inches (mm)
2. Weight: 0.004 lbs (1.8 g)
3. Pin pitch tolerance: ±0.014 (±0.35)
4. Case tolerance: ±0.02 (±0.5)
5. Efficiency range given for maximum Vin to minimum Vin
6. For maximum reliability, ensure turn on time is >1 ms by placing a 47 µF capacitor between +Vin and GND