

Features

- Efficiency up to 97%, Non isolated, no need for heatsinks
- Pin-out compatible with LM78XX Linears
- Very low profile (L*W*H=11.5*7.5*10.2)
- Wide input range.(4.75V ~ 34V)
- Short circuit protection, Thermal shutdown
- Non standard outputs available as specials between 1.5V ~15V
- Low ripple and noise
- RoHS Compatible

INNOLINE
DC/DC-Converter

R-78xx-0.5 Series

0.5 AMP
SIP3
Single Output

Selection Guide

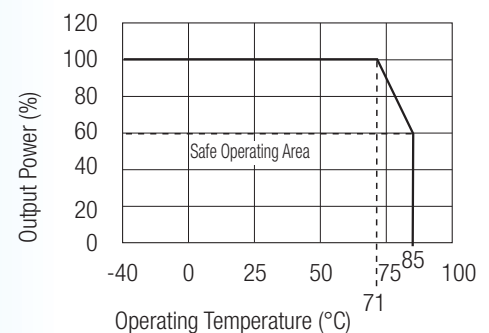
Part Number	Input Range (1) (V)	Output Voltage (V)	Output Current (A)	Efficiency (%)	
				Min. Vin	Max. Vin
R-781.5-0.5	4.75 – 30	1.5	0.5	73	63
R-781.8-0.5	4.75 – 34	1.8	0.5	82	71
R-782.5-0.5	4.75 – 34	2.5	0.5	87	77
R-783.3-0.5	4.75 – 34	3.3	0.5	91	81
R-785.0-0.5	6.5 – 34	5.0	0.5	94	86
R-786.5-0.5	8.0 – 34	6.5	0.5	95	88
R-789.0-0.5	11 – 34	9.0	0.5	96	92
R-7812-0.5	15 – 34	12	0.5	97	94
R-7815-0.5	18 – 34	15	0.5	97	95

Note 1:1.5V Output can be unstable with $V_{in} > 30VDC$



RECOM

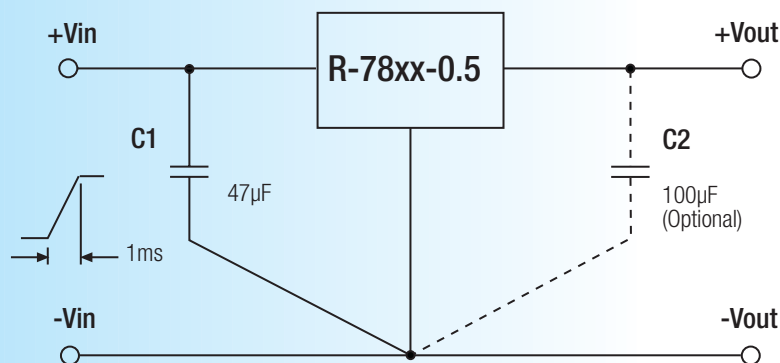
Derating-Graph (Ambient Temperature)



Specifications (refer to the standard application circuit, Ta: 25°C)

Characteristics	Conditions	Min.	Typ.	Max.
Input Voltage Range	1.5V	4.75		34.0V
	1.8V to 15.5V	4.75		30.0V
Output Voltage Range	All Series	1.5		15.5V
Output Current	All Series	50		500mA
Output Current Limit	All Series			2000mA
Short Circuit Input Current	All Series		10	30mA
Internal Power Dissipation				0.4W
Output Voltage Accuracy (At 100% Load)	All Series		±2	±3%
Line Voltage Regulation (Vin = min. to max. at full load)	1.5V to 6.5V		0.2	0.4%
	9V to 15.5V		0.1	0.2%
Load Regulation (10 to 100% full load)	1.5V to 6.5V		0.4	0.6%
	9V to 15.5V		0.25	0.4%
Dynamic Load Stability	100% <-> 50% load		±75mV	
	100% <-> 10% load			±100mV
Ripple & Noise (without Output Capacitor)	1.5V to 6.5V		20mVp-p	30mVp-p
	9V to 15.5V		30mVp-p	40mVp-p
Ripple & Noise (with Output Capacitor=100µF)	1.5V to 6.5V		15mVp-p	20mVp-p
	9V to 15.5V		25mVp-p	35mVp-p
Temperature Coefficient	-40°C ~ +85°C ambient			0.015%/°C
Max capacitance Load				220µF
Switching Frequency		280	330	380kHz
Quiescent Current	Vin = min. to max. at 0% load		5	7mA
Operating Temperature Range		-40°C		+85°C
Operating Case Temperature				+100°C
Storage Temperature Range		-55°C		+125°C
Case Thermal Impedance				70°C / W
Thermal Shutdown	Internal IC junction		+160°C	
MTBF (+25°C)	using MIL-HDBK 217F			21,098 x 10 ³ hours
				4,212.x 10 ³ hours

Standard Application Circuit

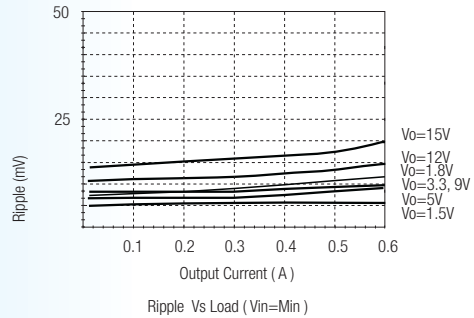
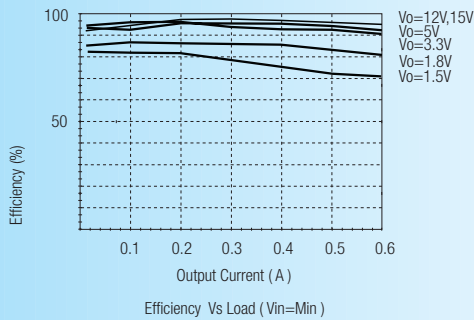
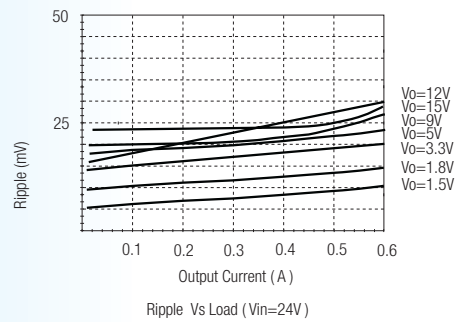
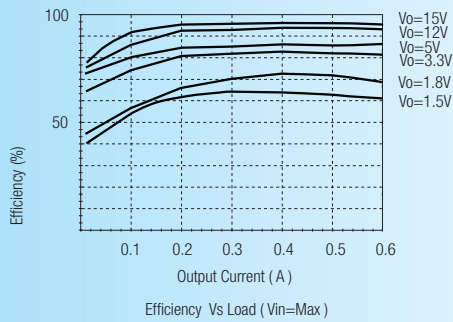
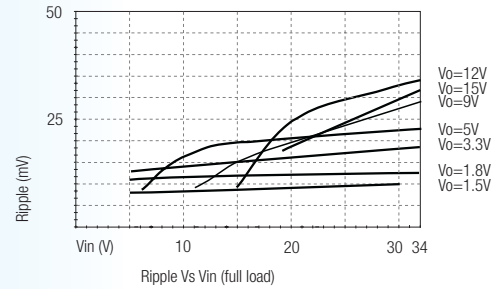
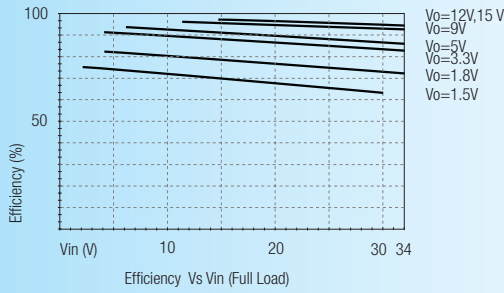


To protect the converter during power-up, use soft start Vin and C1=47µF

Characteristics

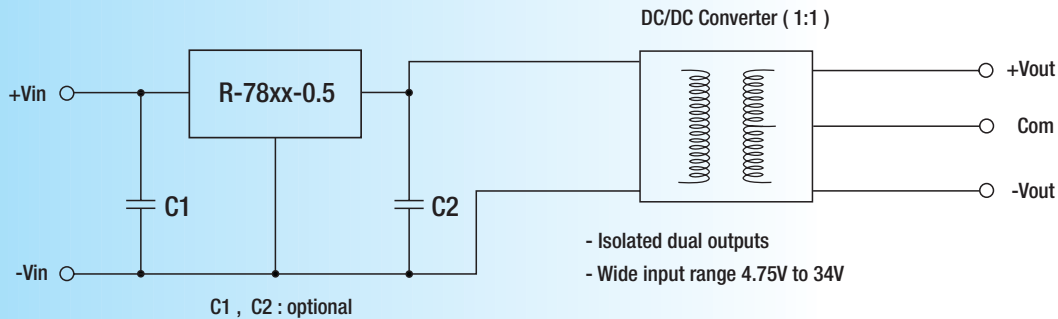
Efficiency

Ripple

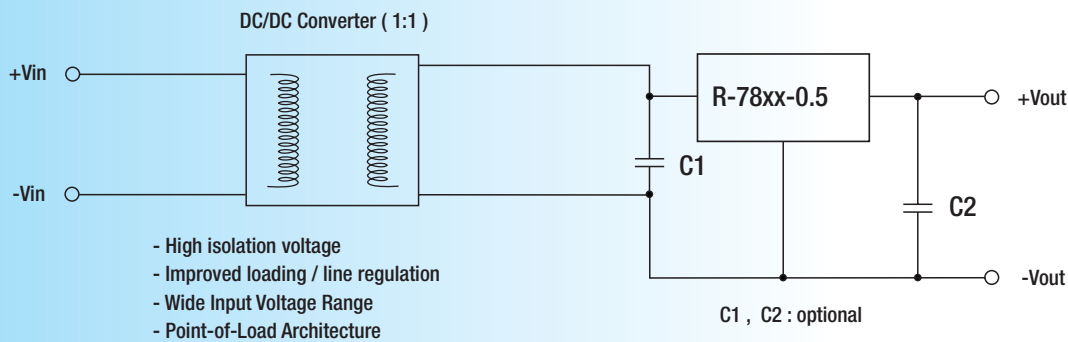


Application Examples

High efficiency, isolated, dual unregulated outputs



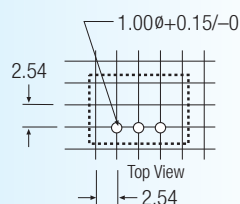
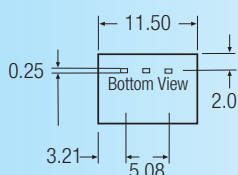
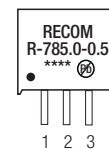
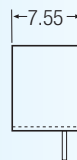
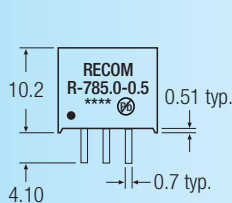
Isolated (up to 6KV), wide Input range regulated output



Package Style and Pinning (mm)

SIP3 PIN Package

3rd angle projection



Pin Connections

Pin #	
1	+Vin
2	GND
3	+Vout

xx.x ±0.5mm

xx.xx ±0.25mm