

Features

- Low Profile 4.5mm
- Low Cost
- Wide Input Range (5V - 36V)
- Short Circuit Protection
- Castellated Connections

Selection Guide

Part Number	Input Range (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (%)
ROF-78E3.3-0.5SMD	5 - 36	3.3	500	73 - 84
ROF-78E5.0-0.5SMD	9 - 36	5.0	500	79 - 87

Specifications (measured at Ta=25°C, Full Load after Warm-Up)

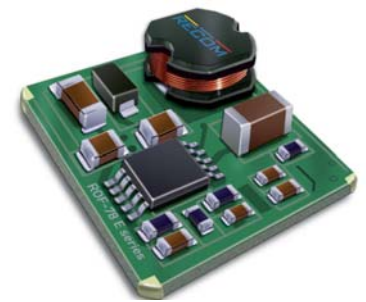
Input Voltage Range	5 - 36 VDC (12/24V typ)		
No Load Input Current	5mA max.		
Maximum Input Current	0.5A max.		
Short Circuit Input Current	200mA max.		
Voltage Accuracy	±5% max.		
Line Regulation	(LL to HL at Full Load)	±1% max.	
Load Regulation	(10 ~ 100%)	±3% max.	
Minimum Load*	10%		
Ripple & Noise	(20MHz Limited)	100mV max.	
Transient Response	100% ~ 50% Load	±100mV	
	(20MHz Limited)	100% ~ 10% Load	±200mV
Operating Frequency	650KHz typ.		
ON/OFF Enable Pin	ON: Open or >1.75V		
(max. Input Voltage = 5V)	OFF: GND or <0.7V		
Current Limit	950mA typ.		
Short Circuit Protection	Auto Recovery		
Operating Temperature	-40°C ~ 85°C		
Storage Temperature	-55°C ~ 125°C		
Humidity	95% RH		
Dimension (L x W x H)	12.5 x 13.5 x 4.5 mm		
Weight	1g		
Cooling Method	Free Air Convection		
MTBF (25°C)	MIL-HDBK-217F	3500 x 10 ³ hours	

*Operation at no load will not damage these devices, but they may not meet all of the datasheet specifications.

INNOLINE
DC/DC-Converter

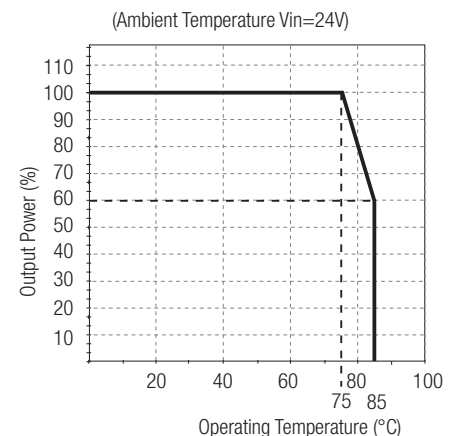
RECOM

Non Isolated Power Module



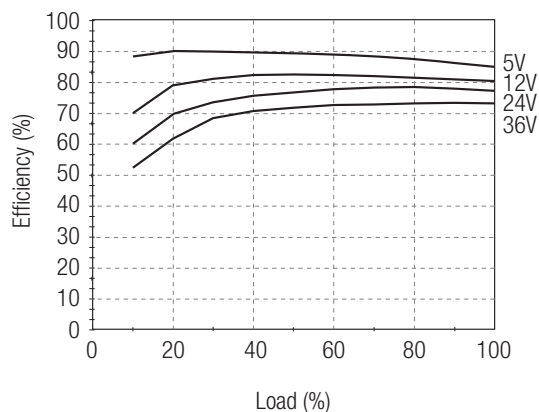
ROF-78E

Derating-Graph (Ambient Temperature)

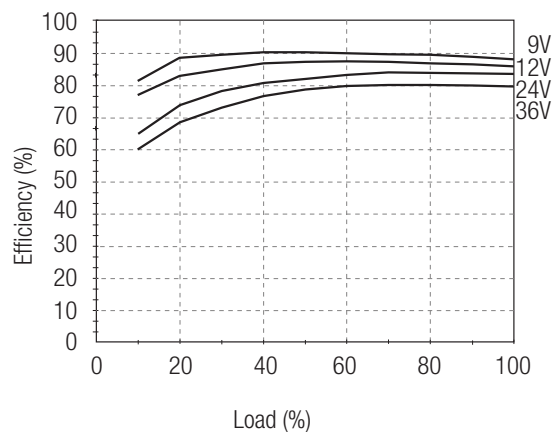


Characteristics

Efficiency

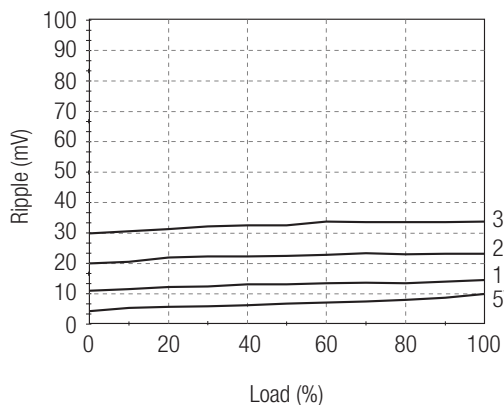


ROF-78E3.3-0.5SMD

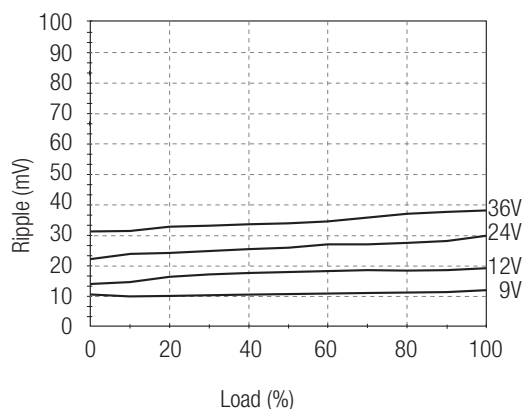


ROF-78E5.0-0.5SMD

Ripple



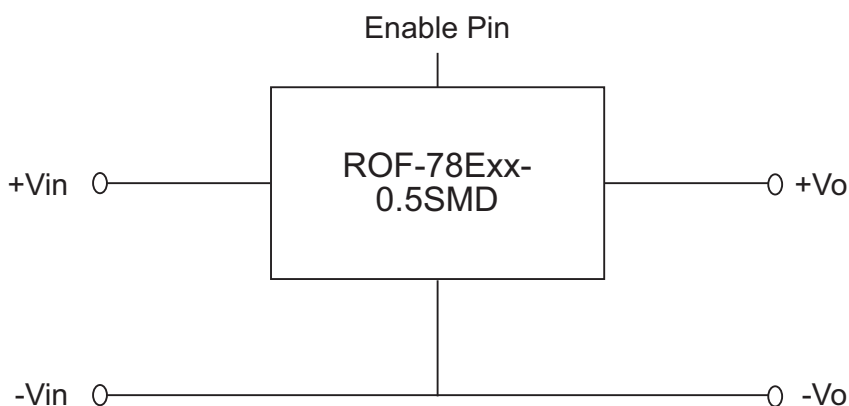
ROF-78E3.3-0.5SMD



ROF-78E5.0-0.5SMD

Applications

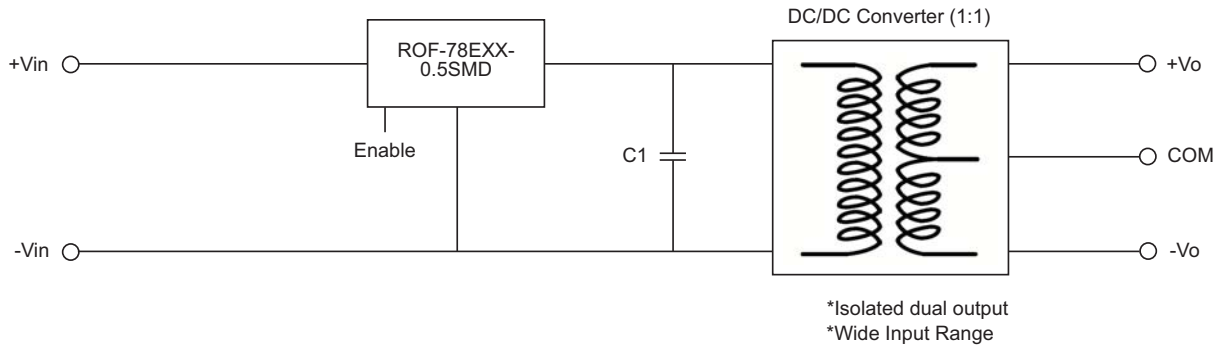
Standard Application Circuit



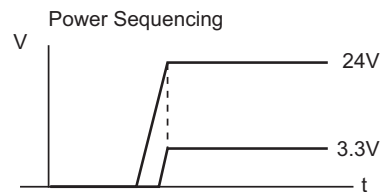
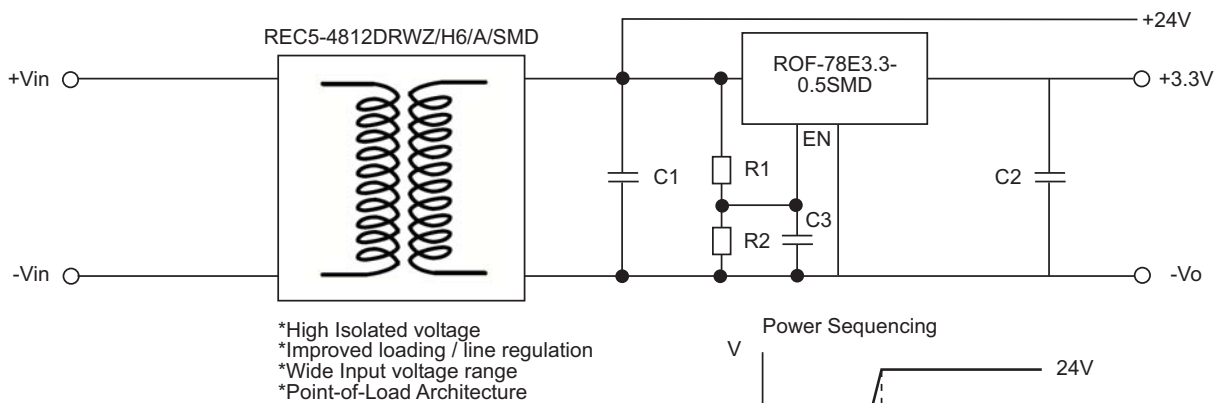
Applications

Application Examples

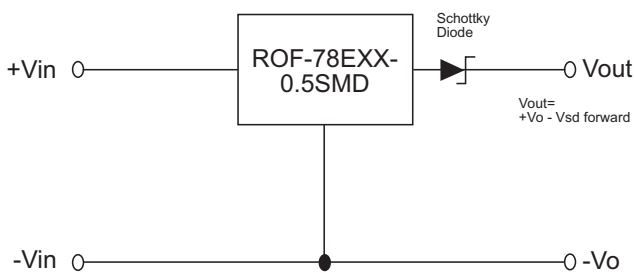
High efficiency, isolated, dual unregulated outputs



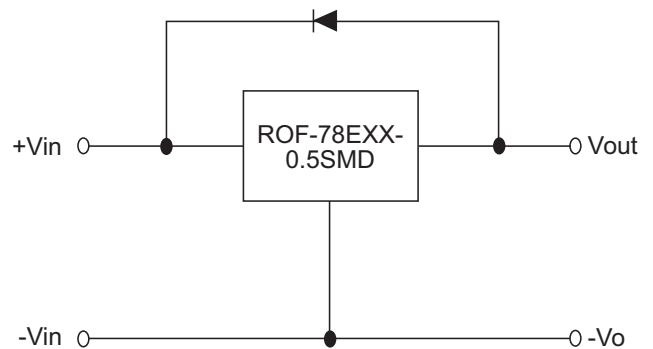
Isolated (Up to 6KV), wide input range regulated output



Optional Protection Circuit



Add a blocking diode to Vout if current can flow backwards into the output, as this can damage the converter when it is powered down.

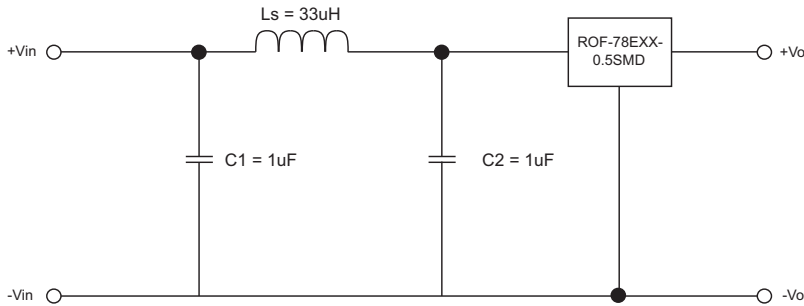


The diode can either be fitted across the device if the source is low impedance or fitted in series with the output.

Applications

Conduction / Radiation Emission Filter Suggestion

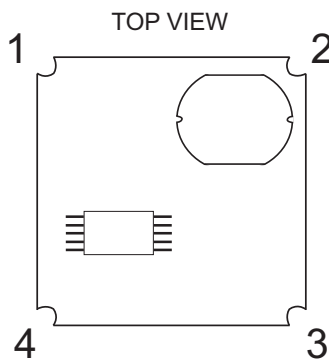
Suggestion for conduction Emission Class A, meet radiation emission Class B



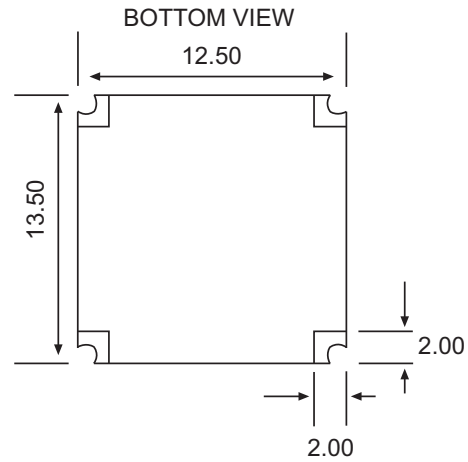
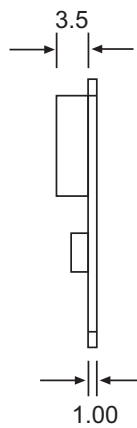
The capacitors used are ceramic capacitors, rated voltage 50V

Package Style and Pinning (mm)

ROF-78EXX-0.5SMD
Surface Mount Package



Recommended Footprint Details



Pin Connections

Pin #	Out
1	+Vin
2	GND
3	+Vout
4	EN

XX.X ± 0.5 mm
XX.XX ± 0.25 mm