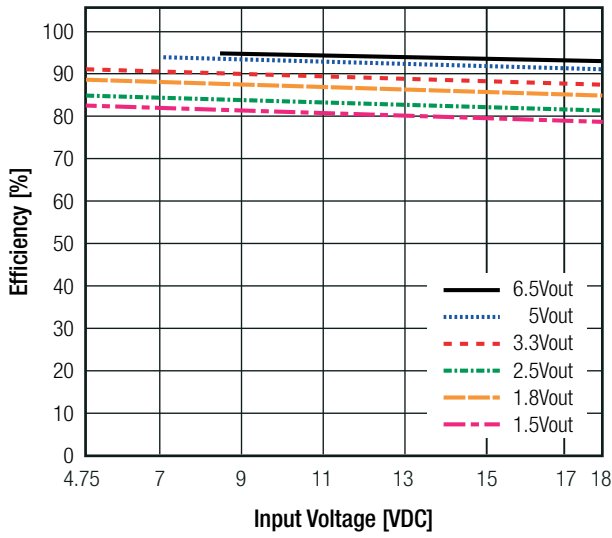
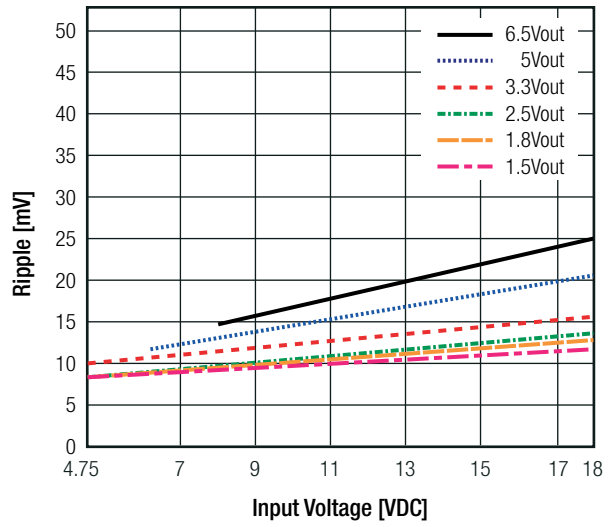


Specifications (measured @ Ta= 25°C, 10% minimum load, unless otherwise stated)

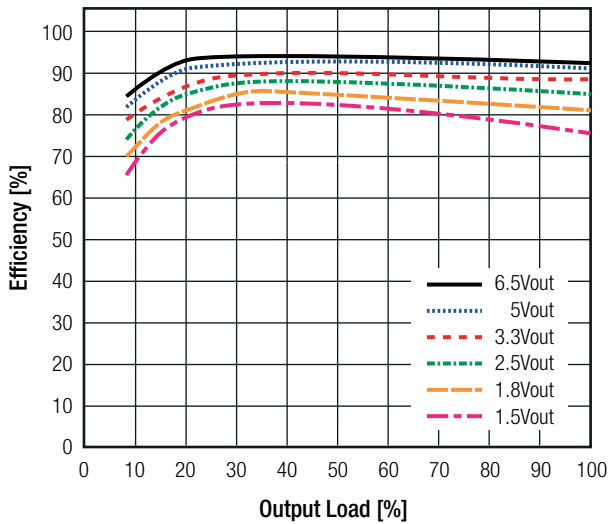
Efficiency vs. Vin (full load)



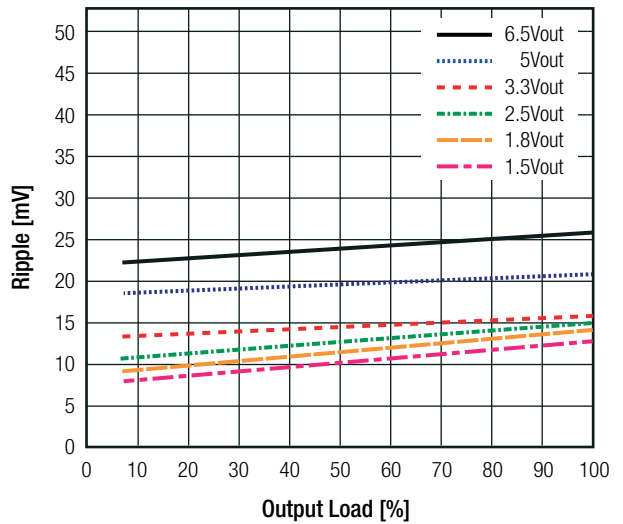
Ripple vs. Vin (full load)



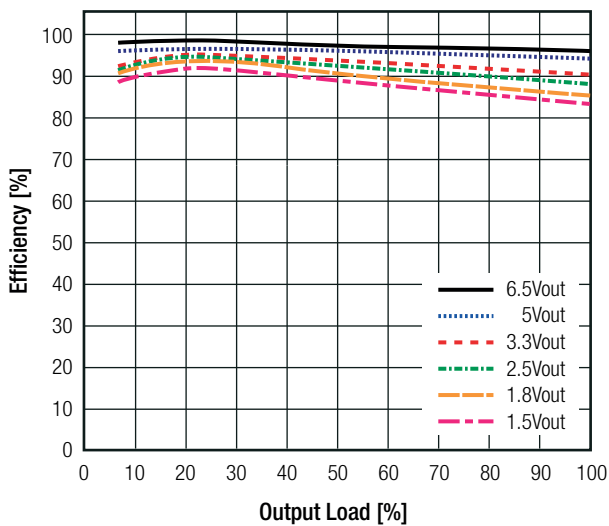
Efficiency vs. Load (max. Vin)



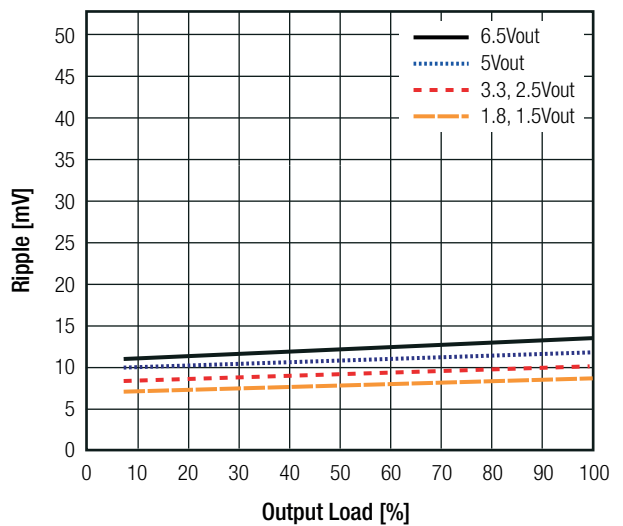
Ripple vs. Load (max. Vin)



Efficiency vs. Load (min. Vin)



Ripple vs. Load (min. Vin)



Specifications (measured @ Ta= 25°C, 10% minimum load, unless otherwise stated)

REGULATIONS

| Parameter | Condition | Value |
|--------------------|------------------------------------|---|
| Output Accuracy | 100% load | ±2.0% typ / ±3.0% max. |
| Line Regulation | low line to high line, 100% load | ±0.3% typ. / ±0.5% max. |
| Load Regulation | 10% to 100% load | ±0.6% typ. / ±0.8% max. |
| Transient Response | 100% <-> 50% load Recovery Time | ±80mV typ. / ±120mV max. 1.0ms min. / 1.5ms typ. |

PROTECTIONS

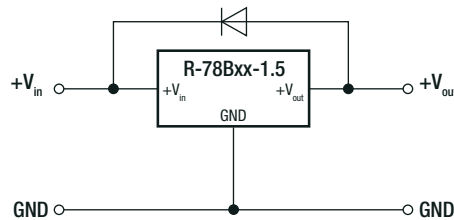
| Parameter | Condition | Value |
|--------------------------------|-----------------|--------------------------------|
| Short Circuit Protection (SCP) | below 100mΩ | continuous, automatic recovery |
| Short Circuit Input Current | nom. Vin= 12VDC | 100mA max. |

Optional Diode Protection Circuit

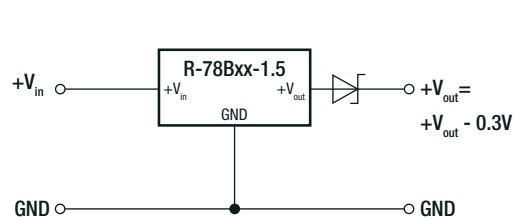
Add a blocking diode to Vout if current can flow backwards into the output, as this can damage the converter when it is powered down.

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

Optional Protection 1:



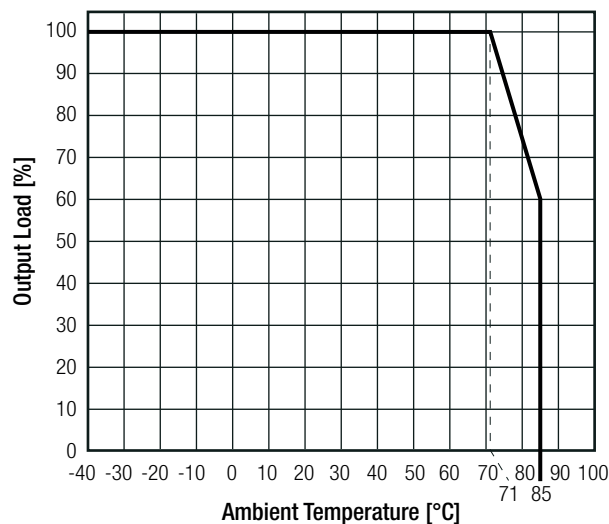
Optional Protection 2:



ENVIRONMENTAL

| Parameter | Condition | Value |
|-----------------------------|----------------------------------|---------------------------------------|
| Operating Temperature Range | with derating (see graph) | -40°C to +85°C |
| Maximum Case Temperature | | +100°C |
| Temperature Coefficient | | ±0.015%/K |
| Thermal Impedance | 0.1 m/s, vertical | 60K/W |
| Operating Altitude | | 2000m |
| Operating Humidity | non-condensing | 95% RH max. |
| Pollution Degree | | PD2 |
| MTBF | according to MIL-HDBK-217F, G.B. | +25°C 5019 x 10 ³ hours |

Derating Graph



Specifications (measured @ Ta= 25°C, 10% minimum load, unless otherwise stated)

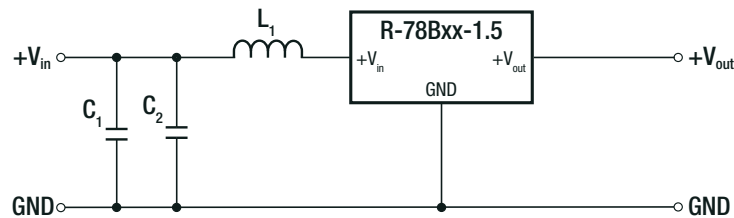
SAFETY AND CERTIFICATIONS

| Certificate Type (Safety) | Report / File Number | Standard |
|---|----------------------|--|
| Information Technology Equipment, General Requirements for Safety | 1603123 | IEC60950-1:2005, 2nd Edition + AM 2:2013 EN60950-1:2006 + AM 2:2013 |
| EAC | RU-AT.49.09571 | TP TC 004/2011 |
| RoHs 2+ | | RoHS 2011/65/EU + AM2015/863 |

EMC Compliance

| EMC Compliance | Condition | Standard / Criterion |
|---|---|-------------------------|
| Electromagnetic compatibility of multimedia equipment - Emission requirements | with external filter (see filter suggestion below) | EN55032, Class A and B |
| ESD Electrostatic Discharge Immunity Test | Air ±8kV, Contact ±4kV | EN61000-4-2, Criteria A |
| Radiated, Radio-Frequency, Electromagnetic Field Immunity Test | 3V/m | EN61000-4-3, Criteria A |

EMC Filter Suggestion according to EN55032



Component List Class A

| MODEL | C1 | L1 |
|-----------------|-------------------|------------------------|
| R-78B3.3-1.5(L) | 10µF 100V MLCC | 3.9µH choke RLS-397 |

Component List Class B

| MODEL | C1 | C2 | L1 |
|-----------------|-------------------|-------------------|------------------------|
| R-78B3.3-1.5(L) | 10µF 100V MLCC | 4.7µF 50V MLCC | 5.6µH choke RLS-567 |

Notes:

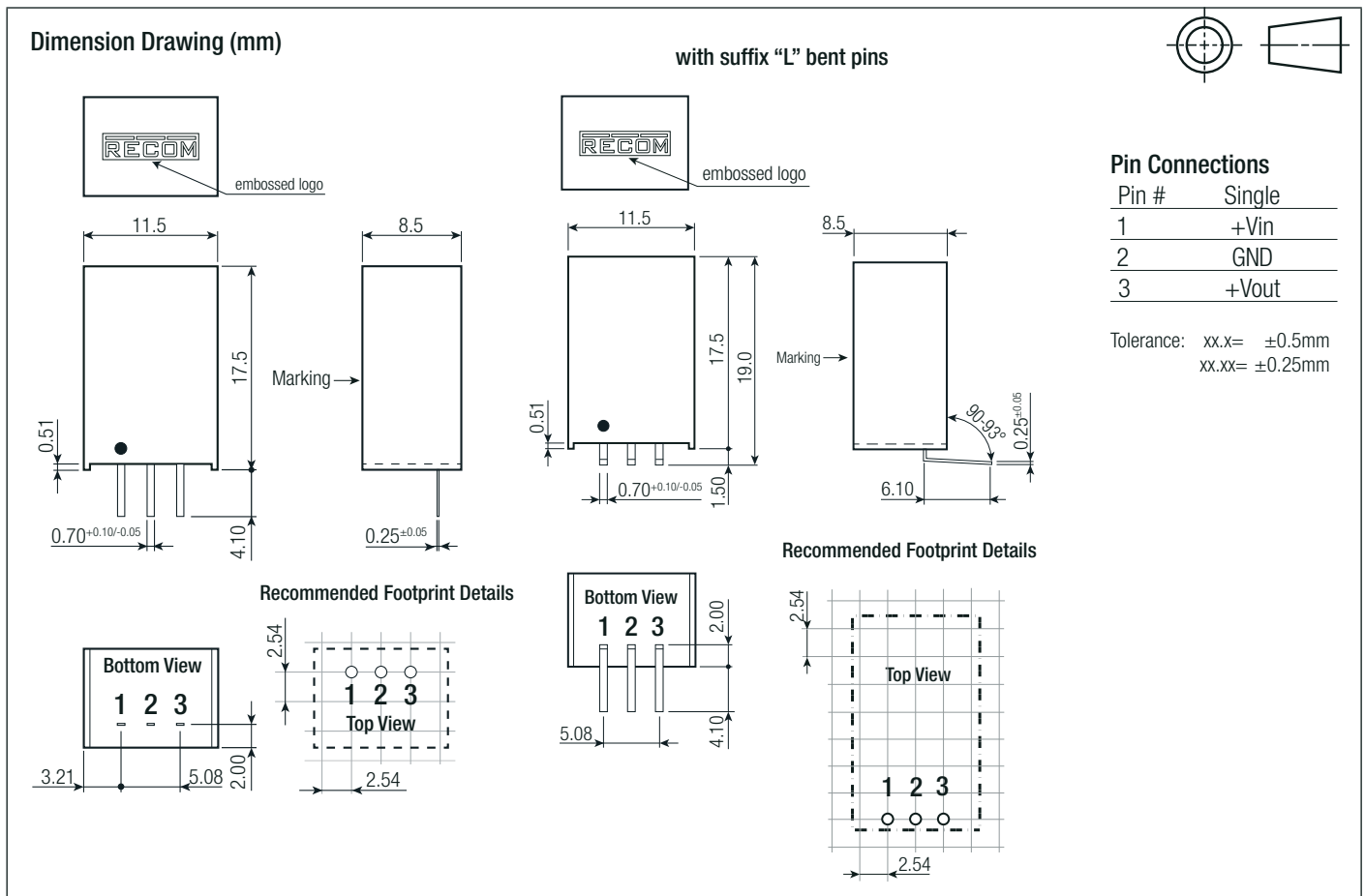
Note4: Filter suggestions are valid for indicated part numbers only. For other part numbers, please contact RECOM tech support for advice

DIMENSION AND PHYSICAL CHARACTERISTICS

| Parameter | Type | Value |
|---------------------------|-----------------|--|
| Material | case potting | non-conductive black plastic, (UL94 V-0) silicone, (UL94 V-0) |
| Package Dimension (LxWxH) | | 11.5 x 8.5 x 17.5mm |
| Package Weight | | 4g typ. |

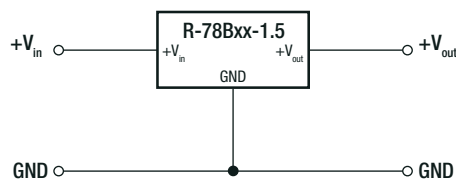
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Specifications (measured @ Ta= 25°C, 10% minimum load, unless otherwise stated)



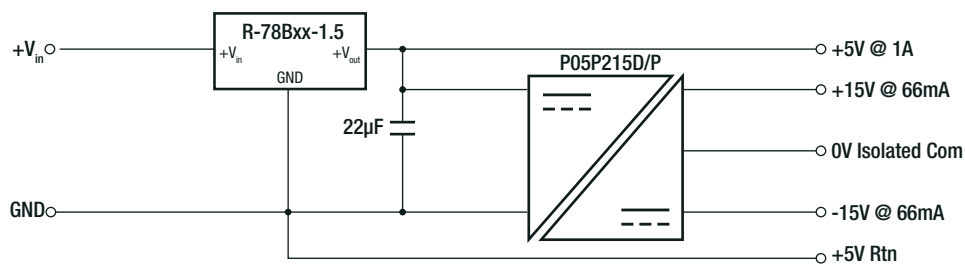
INSTALLATION AND APPLICATION

Typical Application Circuit



Application Examples

High Efficiency Multiple Output

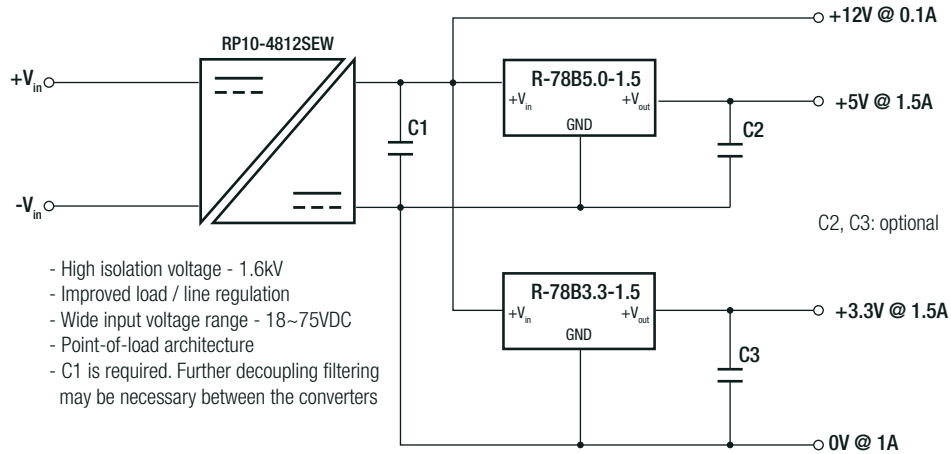


- Wide input range suits both 12V and 7.2V battery packs
- 5.2kV isolated short circuit protected outputs for analogue circuits, e.g. medical grade interface
- High efficiency +5V/1A protected output for digital circuits
- Further decoupling filtering may be necessary between the converters

continued on next page

Specifications (measured @ Ta= 25°C, 10% minimum load, unless otherwise stated)

Isolated, Wide Input Range, Distributed Power Architecture (Point-of-Load)





PACKAGING INFORMATION

| Parameter | Type | | Value |
|-----------------------------|------|-----------------------------------|--|
| | tube | without suffix with suffix "L" | |
| Packaging Dimension (LxWxH) | | | 520.0 x 25.1 x 10.6mm 520.0 x 26.1 x 15.8mm |
| Packaging Quantity | tube | | 42pcs |
| Storage Temperature Range | | | -55°C to +125°C |
| Storage Humidity | | | 95% RH max. |

The product information and specifications may be subject to changes even without prior written notice. The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

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-  Shortage Management
-  Alternative Solution
-  Excess Inventory Management