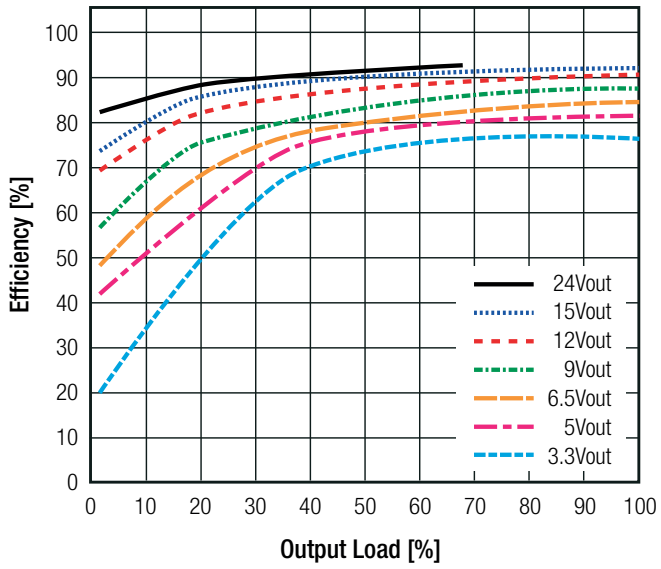
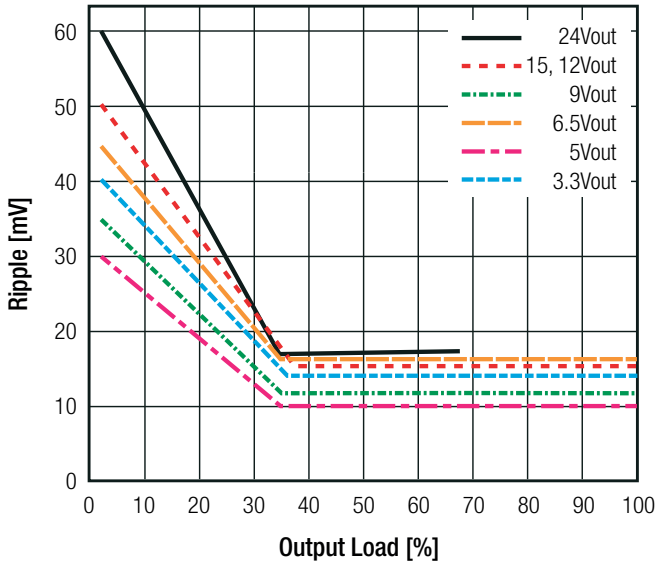
Specifications (measured @ Ta= 25°C, 10% minimum load, unless otherwise stated)

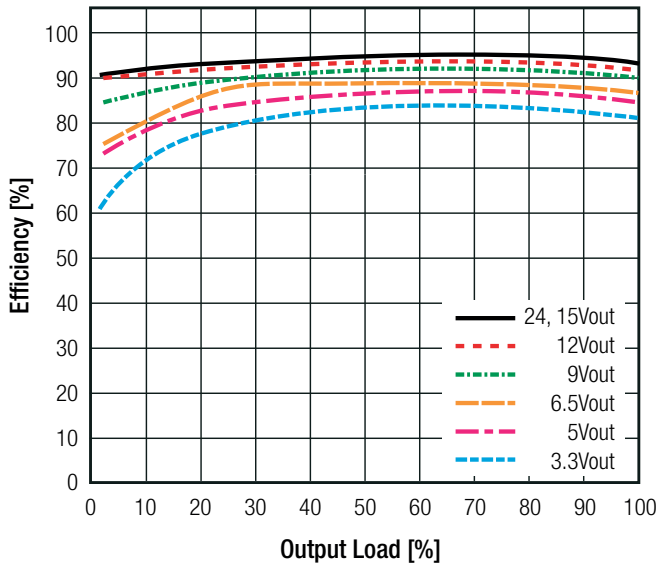
Efficiency vs. Load (max. Vin)



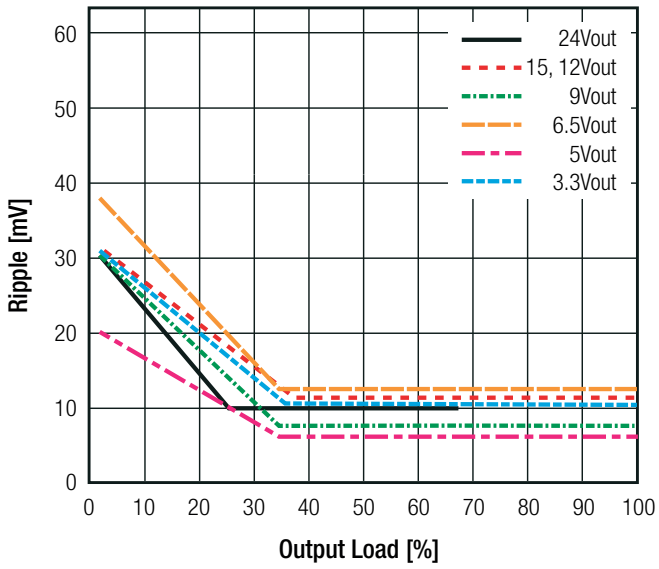
Ripple vs. Load (max. Vin)



Efficiency vs. Load (min. Vin)



Ripple vs. Load (min. Vin)



REGULATIONS

Parameter	Condition	Value
Output Accuracy	100% load	±2.0% typ / ±3.0% max.
Line Regulation	low line to high line, 100% load	±0.4% typ. / ±1.0% max.
Load Regulation	10% to 100% load	±0.3% typ. / ±0.6% max.
Transient Response [3]	100% <-> 50% load	±75mV typ. / ±100mV max.

Notes:

Note3: Measurements are made with a 100µF output capacitor

R-78HBxx-0.5(L) Series

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

PROTECTIONS

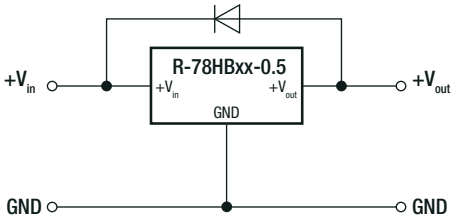
Parameter	Condition	Value
Short Circuit Protection (SCP)	below 100mΩ	continuous, automatic recovery
Short Circuit Input Current	nom. Vin= 24VDC	15mA typ. / 25mA max.

Optional Diode Protection Circuit

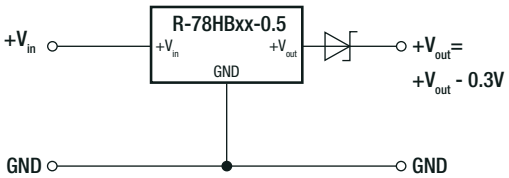
Add a blocking diode to Vout if current can flow backwards into the output, as this can damage the converter when it is powered down.

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

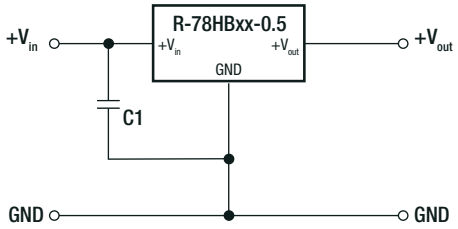
Optional Protection 1:



Optional Protection 2:

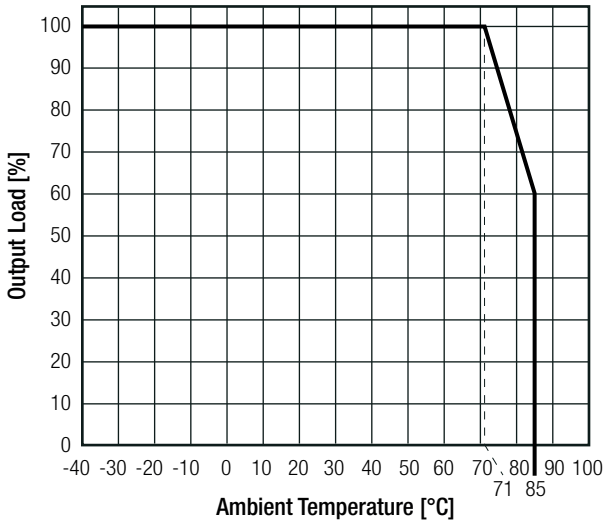


Protection Circuit



To protect the converter during power-up, use C1=3.3µF/100V if Vin>50V

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	0.1m/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 +71°C	7395 x 10^3 hours 1242 x 10^3 hours

Derating Graph