

Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

BASIC CHARACTERISTICS

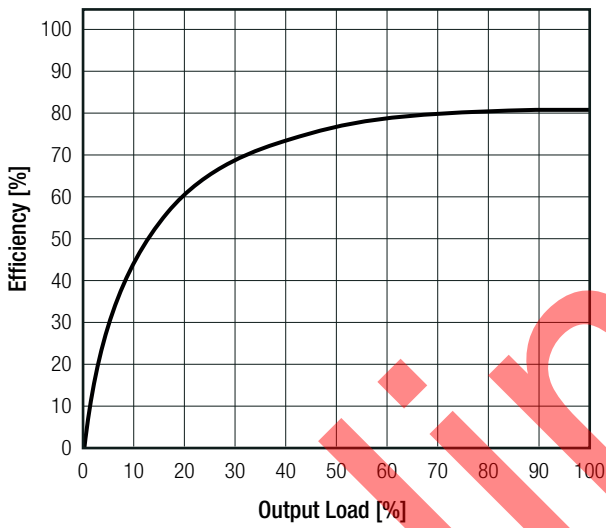
Parameter	Condition	Min.	Typ.	Max.
Internal Input Filter				internal capacitors
Input Voltage Range			±10%	
Minimum Load		0%		
Internal Operating Frequency	100% load at nominal V _{IN}	20kHz		
Output Ripple and Noise ⁽⁴⁾	20MHz BW			220mVp-p

Notes:

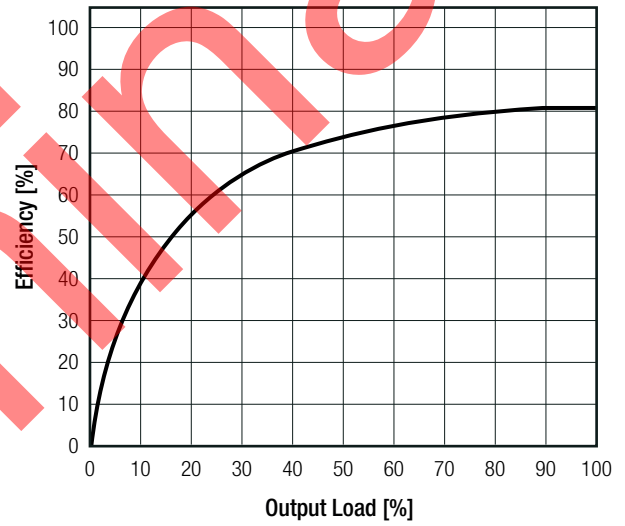
Note4: Measurements are made with a 0.1µF MLCC across output (low ESR)

Efficiency vs. Load

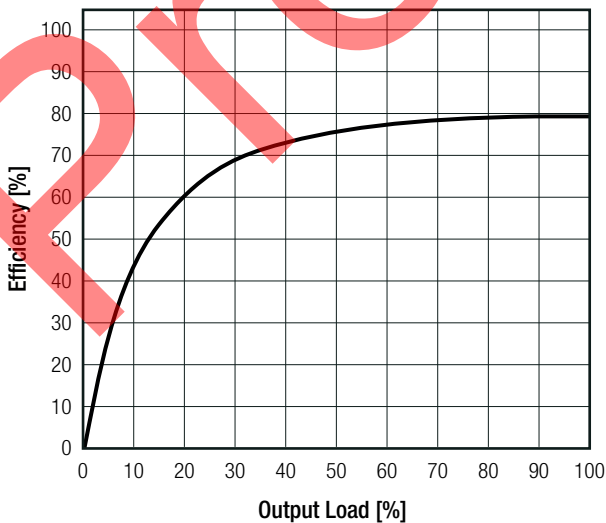
RA3-0508S/SMD



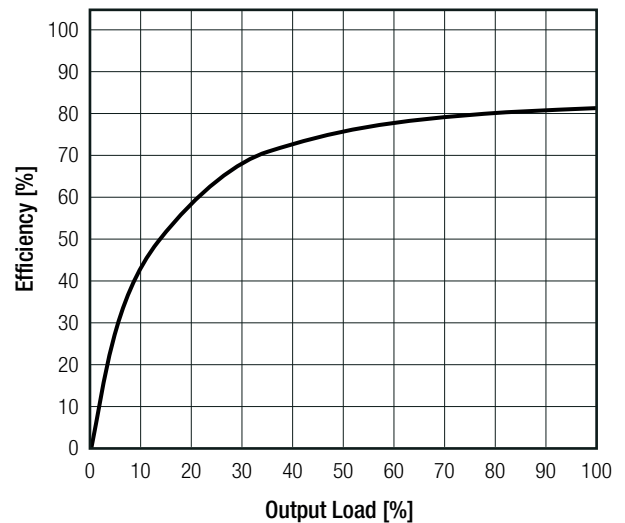
RA3-1209S/SMD



RA3-0511503D/SMD



RA3-242005D/SMD



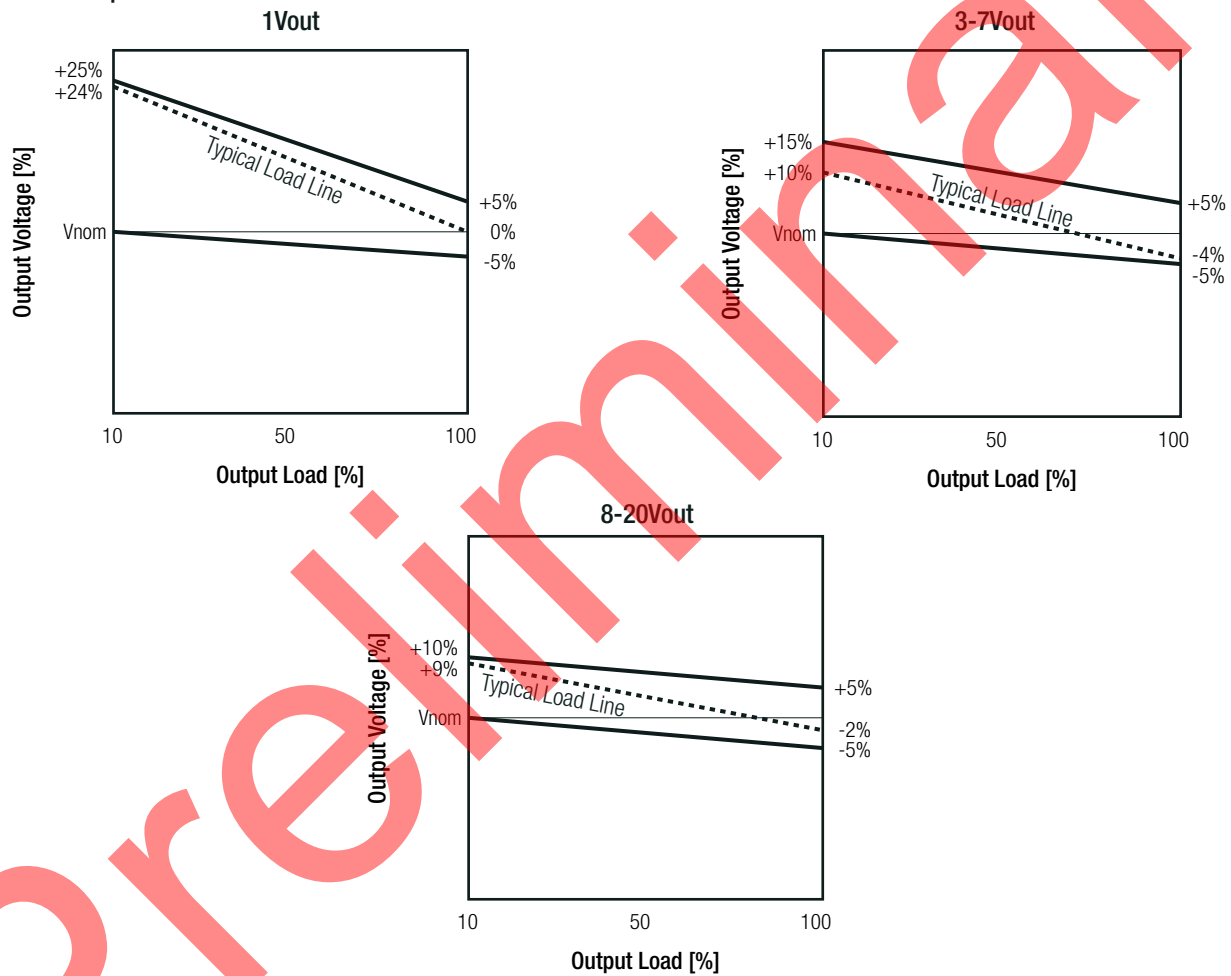
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REGULATIONS			
Parameter	Condition		Value
Output Accuracy	V _{OUT} = 1-3VDC others		±10.0% max. ±5.0% max.
Line Regulation	low line to high line, full load		±1.2% typ. of 1.0% V _{IN}
Load Regulation ⁽⁵⁾	10% to 100% load	1VDC	25.0% max.
		V _{OUT} = 3-7VDC	15.0% max.
		8-20VDC	10.0% max.

Notes:

Note5: Operation below 10% load will not harm the converter, but specifications may not be met

Tolerance Envelope



PROTECTIONS			
Parameter	Type		Value
Isolation Voltage ⁽⁶⁾	I/P to O/P	for 1 minute	5.2kVDC 4.0kVAC
Isolation Resistance			15GΩ min.
Isolation Capacitance			10pF max.
Isolation Grade			functional

Notes:

Note6: For repeat Hi-Pot testing, reduce the time and/or the test voltage

Note7: Refer to local safety regulations if input over-current protection is also required. Recommended fuse: slow blow type

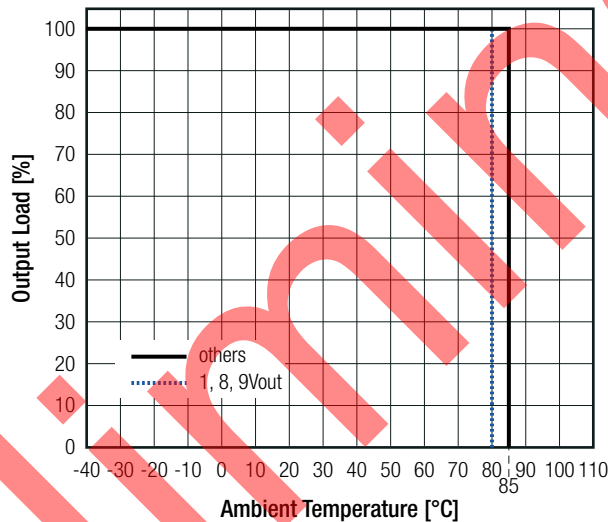
Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

ENVIRONMENTAL

Parameter	Condition		Value
Operating Temperature Range	@ natural convection 0.1m/s	refer to "Derating Graph"	-40°C to +85°C
Maximum Case Temperature			+105°C
Temperature Coefficient		V _{out} = 1VDC 3-20VDC	±0.02%/K ±0.03%/K
Thermal Impedance			30K/W
Operating Altitude			5000m
Operating Humidity		non-condensing	5% - 95% RH max.
Pollution Degree			PD2
Vibration			MIL-STD-202G
MTBF	according to MIL-HDBK-217F, G.B.	+25°C + 80°C	12000 x 10 ³ hours 3300 x 10 ³ hours

Derating Graph

(@ Chamber and natural convection 0.1m/s)

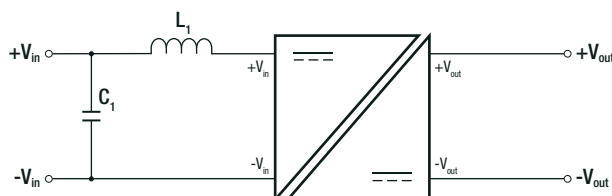


SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report Number	Standard
Audio/Video, information and communication technology equipment - Part 1: Safety requirements	pending	UL62368-1 CAN/CSA-C22.2 No. 62368-1
Audio/Video, information and communication technology equipment - Part1: Safety requirements (CB)	pending	IEC62368-1:2014 2nd Edition
Audio/Video, information and communication technology equipment - Part1: Safety requirements (LVD)		EN62368-1:2014 + A11:2017
Audio/Video, information and communication technology equipment - Part1: Safety requirements (CB)	pending	IEC62368-1:2018 3rd Edition
Audio/Video, information and communication technology equipment - Part1: Safety requirements (LVD)		EN IEC 62368-1:2020 + A11:2020
RoHS2		RoHS 2011/65/EU + AM2015/863

EMC Compliance	Condition	Standard / Criterion
Electromagnetic Compatibility of Multimedia Equipment - Emission Requirements	without external filter see filter suggestion below	EN55032, Class A EN55032, Class B

EMC Filtering Suggestions according to EN55032



Component List Class B

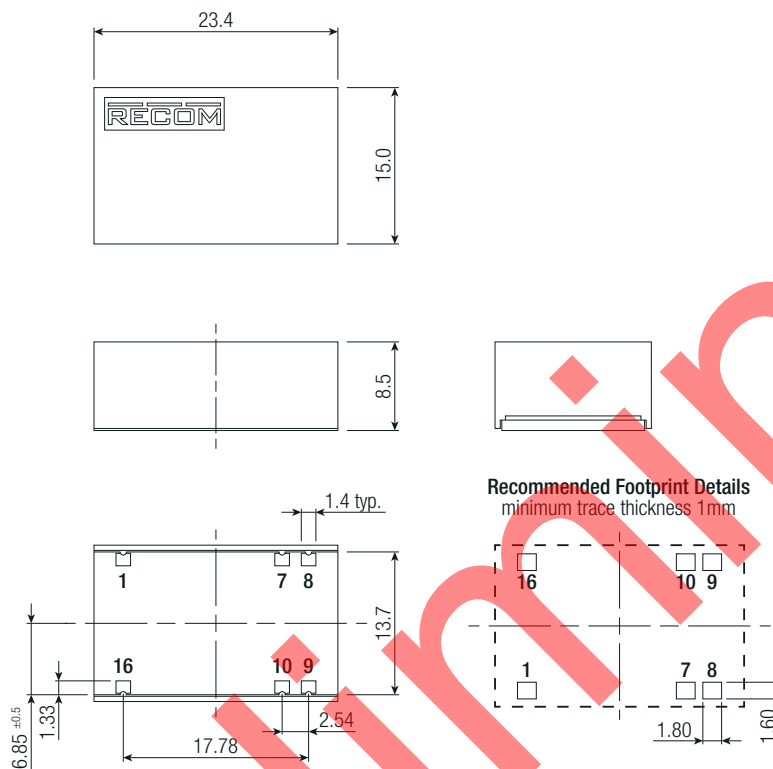
nom. Input Voltage	C1	L1
5VDC, 12VDC	4.7µF	22µH
24VDC	10µF	47µH

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DIMENSION AND PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Material	case	black plastic, UL94 V-0
Dimension (LxWxH)		23.4 x 15.0 x 8.5mm
Weight		4.0g typ.

Dimension Drawing (mm)



Pinning Information

Pin #	Single	Dual
1	-Vin	-Vin
7	NC	NC
8	-Vout	Com
9	+Vout	+Vout
10	NC	-Vout
16	+Vin	+Vin

NC= no connection
Tolerance: ±0.25mm

PACKAGING INFORMATION

Parameter	Type	Value
Packaging Dimension (LxWxH)	tube reel (diameter + width)	420.0 x 23.0 x 13.9mm Ø330.0 + 50.0mm
Packaging Quantity	tube tape and reel	16pcs 200pcs
Storage Temperature Range		-55°C to +125°C
Storage Humidity	non-condensing	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.