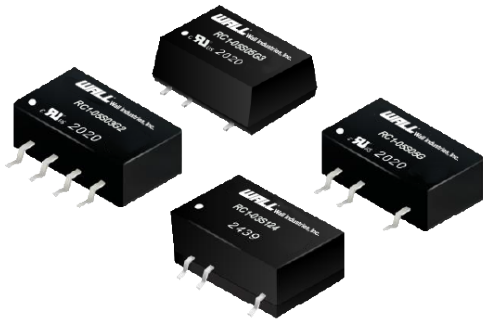




Size: 0.5~0.52in x 0.3~0.43in x 0.25~0.28in
(12.7~13.2mm x 7.6~10.8mm x 6.25~7mm)

FEATURES

- Wide Input Voltage Ranges
- 14Pin SMD Package
- Unregulated Output Types
- RoHS Compliant
- High Efficiency
- 4 Package Types Available
- Industry Standard Pinout
- No Load Input Current as Low as 5mA
- Continuous Short Circuit Protection
- 1.5KVDC ~ 3KVDC Isolation
- UL/cUL/IEC/EN 62368-1 Approved
- CB Report

DESCRIPTION

The RC1 series of DC/DC converters offers 1 watt of output power in a compact package. This series consists of unregulated single output models with several wide input voltage ranges available. Each model features an industry standard pinout, SMD package, as well as high efficiency. This series also has short circuit protection, RoHS compliance, and UL/cUL/IEC/EN 62368-1 approval.

MODEL SELECTION TABLE

Model Number ⁽¹⁾	Input Voltage Range	Output Voltage	Output Current	Efficiency	Output Power	Max. Capacitive Load	Package Type
RC1-03S03	3.3VDC	3.3VDC	303mA	76%	1W	2400µF	1/2/3/4
RC1-03S05		5VDC	200mA	82%		2400µF	1/2/3/4
RC1-03S09		9VDC	112mA	83%		1000µF	1/2/3/4
RC1-03S12		12VDC	84mA	84%		470µF	1/2/3/4
RC1-03S15		15VDC	67mA	84%		330µF	1/2/3/4
RC1-03S24		24VDC	42mA	85%		100µF	3/4
RC1-05S03	5VDC	3.3VDC	303mA	76%	1W	2400µF	1/2/3/4
RC1-05S05		5VDC	200mA	82%		2400µF	1/2/3/4
RC1-05S09		9VDC	112mA	83%		1000µF	1/2/3/4
RC1-05S12		12VDC	84mA	84%		470µF	1/2/3/4
RC1-05S15		15VDC	67mA	84%		330µF	1/2/3/4
RC1-05S24		24VDC	42mA	85%		100µF	3/4
RC1-09S03	9VDC	3.3VDC	303mA	76%	1W	2400µF	1/2/3/4
RC1-09S05		5VDC	200mA	82%		2400µF	1/2/3/4
RC1-09S09		9VDC	112mA	83%		1000µF	1/2/3/4
RC1-09S12		12VDC	84mA	84%		470µF	1/2/3/4
RC1-09S15		15VDC	67mA	84%		330µF	1/2/3/4
RC1-09S24		24VDC	42mA	85%		100µF	3/4
RC1-12S03	12VDC	3.3VDC	303mA	78%	1W	2400µF	1/2/3/4
RC1-12S05		5VDC	200mA	82%		2400µF	1/2/3/4
RC1-12S09		9VDC	112mA	85%		1000µF	1/2/3/4
RC1-12S12		12VDC	84mA	85%		680µF	1/2/3/4
RC1-12S15		15VDC	67mA	87%		330µF	1/2/3/4
RC1-12S24		24VDC	42mA	85%		220µF	3/4
RC1-15S03	15VDC	3.3VDC	303mA	78%	1W	2400µF	1/2/3/4
RC1-15S05		5VDC	200mA	82%		2400µF	1/2/3/4
RC1-15S09		9VDC	112mA	85%		1000µF	1/2/3/4
RC1-15S12		12VDC	84mA	85%		680µF	1/2/3/4
RC1-15S15		15VDC	67mA	87%		330µF	1/2/3/4
RC1-15S24		24VDC	42mA	85%		220µF	3/4
RC1-24S03	24VDC	3.3VDC	303mA	78%	1W	2400µF	1/2/3/4
RC1-24S05		5VDC	200mA	82%		2400µF	1/2/3/4
RC1-24S09		9VDC	112mA	85%		1000µF	1/2/3/4
RC1-24S12		12VDC	84mA	85%		680µF	1/2/3/4
RC1-24S15		15VDC	67mA	87%		330µF	1/2/3/4
RC1-24S24		24VDC	42mA	85%		220µF	3/4

SPECIFICATIONS

All specifications are based on 25°C, Nominal Input Voltage, and Rated Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

SPECIFICATION		TEST CONDITIONS		Min	Typ	Max	Unit
INPUT SPECIFICATIONS							
Voltage Range	Vo, Io Nom @3.3V, 5V, 9V Vo, Io Nom @12V, 15V, 24V			±10 ±20			%
Surge Range (1 sec. max.)	3.3VDC Input		-0.7		5	VDC	
	5VDC Input		-0.7		9		
	9VDC Input		-0.7		15		
	12VDC Input		-0.7		18		
	15VDC Input		-0.7		21		
	24VDC Input		-0.7		30		
Reflected Ripple Current					15		mA
Input Filter			Capacitor				
OUTPUT SPECIFICATIONS							
Output Voltage			See Table				
Voltage Tolerance	100% Full Load				±5		%
Line Regulation	For 1.0% of Vin			1.2			%
Load Regulation	10% to 100% FL	3.3V Output		15	20	%	
		5V Output		10	15		
		9V Output		8	10		
		12V Output		7	10		
		15V Output		6	10		
		24V Output		5	10		
Output Power			See Table				
Output Current			See Table				
Ripple & Noise	BW=DC to 20MHz	3.3V, 5V, 9V, 12V, 15V Output		30	75	mVp-p	
		24V Output		50	100		
PROTECTION							
Short Circuit Protection			Continuous, Self Recovery				
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature			-40		+105		°C
Storage Temperature			-55		+125		°C
Humidity	Non-Condensing				95		%
Cooling			Free Air Convection				
MTBF	MIL-HDBK-217F @25°C		3,500,000				Hours
GENERAL SPECIFICATIONS							
Efficiency			See Table				
Switching Frequency	Full Load, Nominal Input	3.3V, 5V Vin Other Vin		215/370 250			KHz
Isolation Resistance	500VDC		1000				MΩ
Isolation Capacitance	Input-Output, 100KHz/0.1V			20			pF
Isolation	Standard			1.5		kVDC	
	High Isolation			3			
PHYSICAL SPECIFICATIONS							
Weight	Package 1 & 2		0.042oz (1.2g)				
	Package 3		0.045oz (1.28g)				
	Package 4		0.048oz (1.36g)				
Dimensions (L x W x H)	Package 1 & 2		0.5in x 0.3in x 0.25in (12.7mm x 7.6mm x 6.25mm)				
	Package 3		0.5in x 0.43in x 0.27in (12.8mm x 10.8mm x 6.9mm)				
	Package 4		0.52in x 0.33in x 0.28in (13.2mm x 8.5mm x 7mm)				
Case Material			DAP				
SAFETY & EMI							
Safety Specification ⁽²⁾			IEC62368, UL62368, and EN62368				
EMI	CE		CISPR32/EN55032		Class B ⁽³⁾		
	RE		CISPR32/EN55032		Class B ⁽³⁾		
EMS	ESD	IEC/EN61000-4-2	Air ±8kV, Contact ±6kV		Perf. Criteria B		

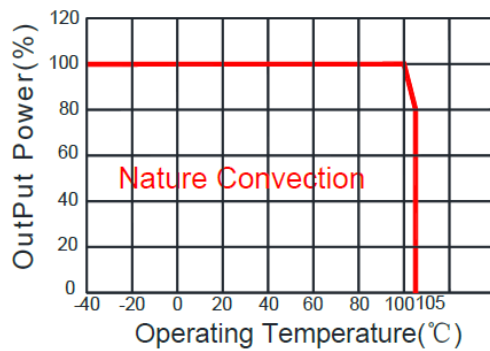
NOTES

- Several options are available for this series. No suffix indicates 1.5kvdc isolation and Package 1.
To indicate high isolation, add "H3" suffix to part number.
To indicate Package 2, add "2" to part number.
To indicate Package 3, add "3" to part number.
To indicate Package 4, add "4" to part number.
Note: Package Type 1 & 2 are not available for 24Vin.
- This product is Listed to applicable standards and requirements by UL.
- See Fig. 1 for recommended circuit.

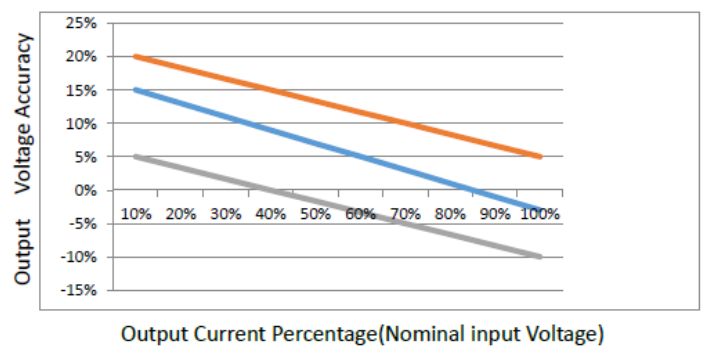
**Due to advances in technology, specifications subject to change without notice.*

CHARACTERISTIC CURVES

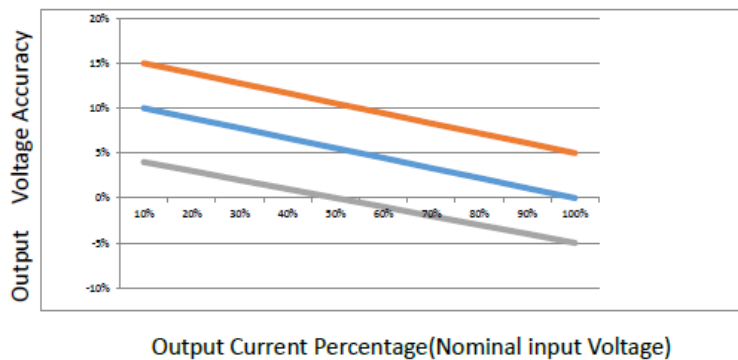
Temperature Derating Graph



3.3VDC Output Regulation Curve



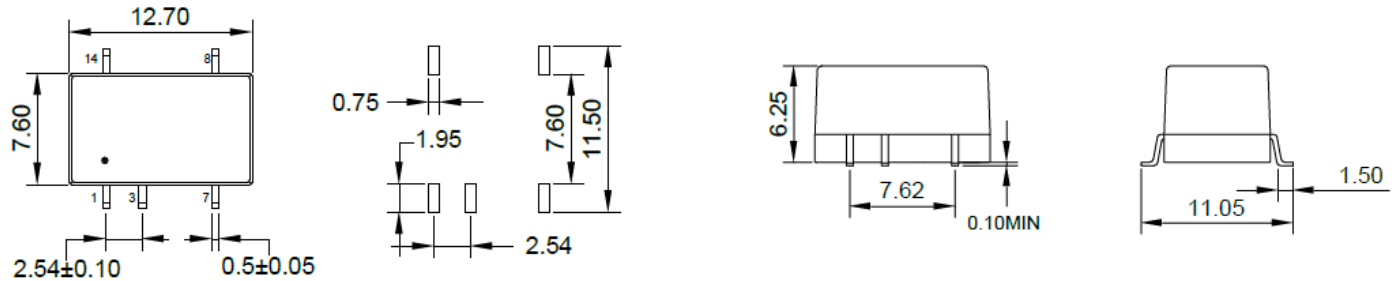
Other Output Regulation Curve



MECHANICAL DRAWINGS

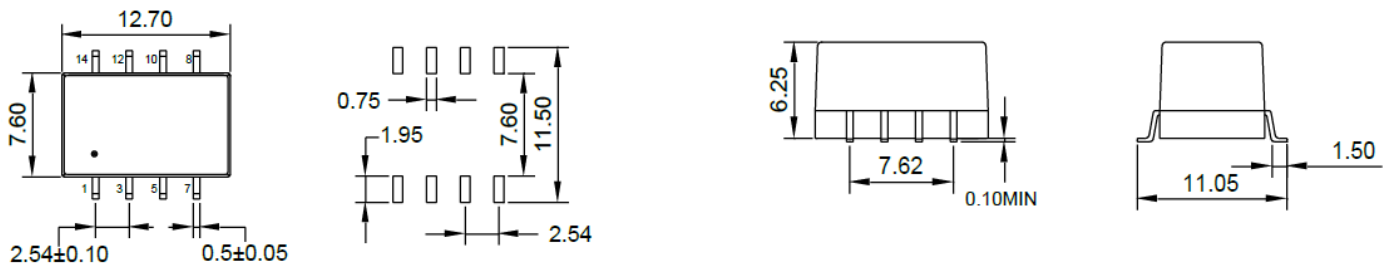
Unit: mm. Unless otherwise specified, all tolerances are ± 0.25

Package 1 (No Suffix)



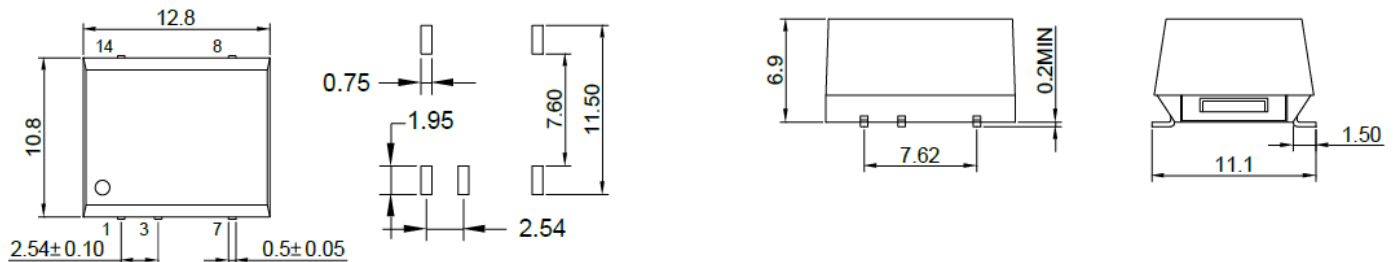
SUGGESTED PAD LAYOUT

Package 2 ("2" Suffix)



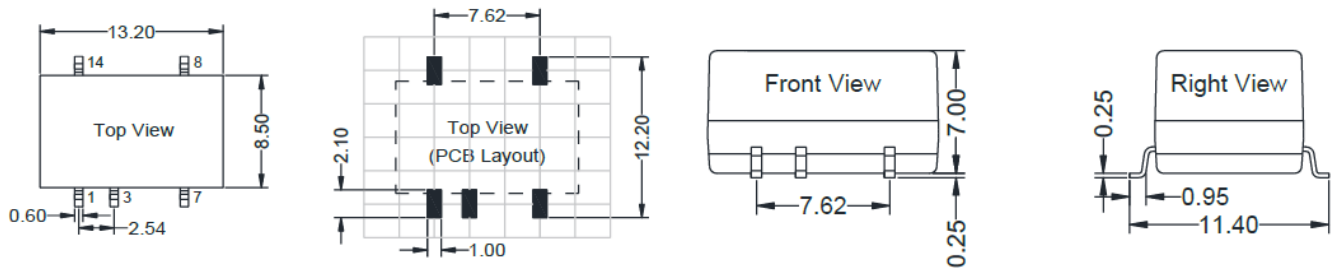
SUGGESTED PAD LAYOUT

Package 3 ("3" Suffix)



SUGGESTED PAD LAYOUT

Package 4 ("4" Suffix)

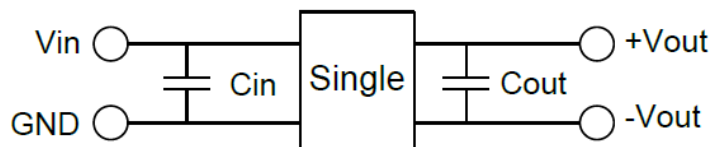


Note: Grid 2.54*2.54mm

Pin Connection

PIN	1	3	7	8	14	Other
Package 1/3/4	-Vin	+Vin	-Vout	+Vout	NC	No Pin
Package 2	-Vin	+Vin	-Vout	+Vout	NC	NC

RECOMMENDED TEST CIRCUIT



Vin	Cin	Single Vout	Cout
3.3VDC	4.7μF/25V	3.3VDC	10μF/16V
5VDC	4.7μF/25V	5VDC	10μF/16V
9VDC	4.7μF/25V	9VDC	2.2μF/16V
12VDC	2.2μF/25V	12VDC	2.2μF/25V
15VDC	2.2μF/25V	15VDC	1μF/25V
24VDC	1μF/50V	24VDC	1μF/50V

EMC (CLASS B) COMPLIANCE CIRCUIT

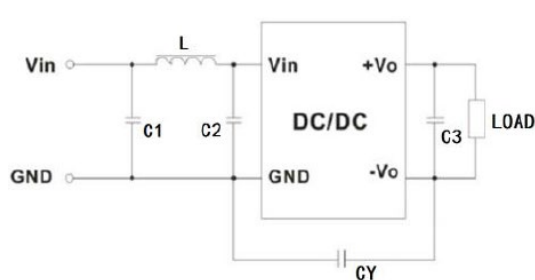


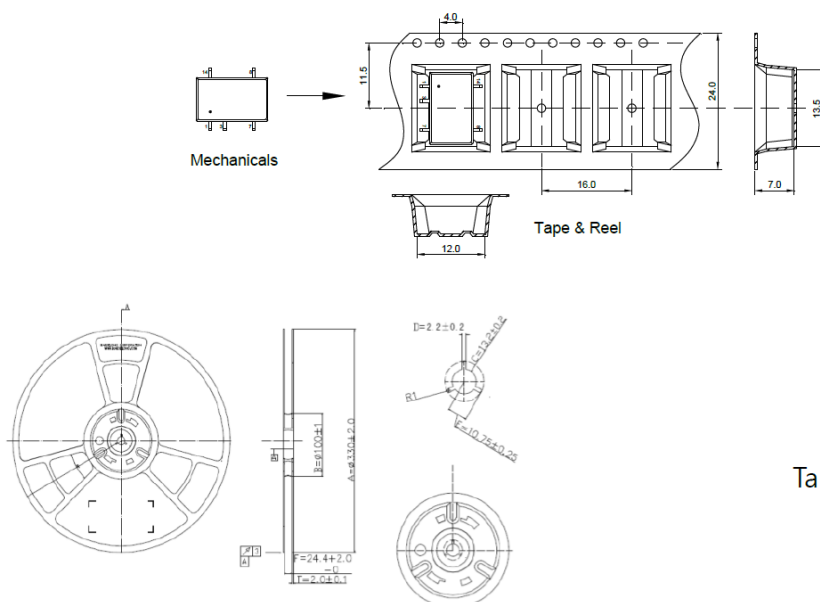
Fig. 1

EMC Recommended Circuit Value Table

EMI	C1	4.7μF/50V
	C2	4.7μF/50V
	CY	1nF/4kV
	C3	Recommended Test Circuit
	L	6.8μH

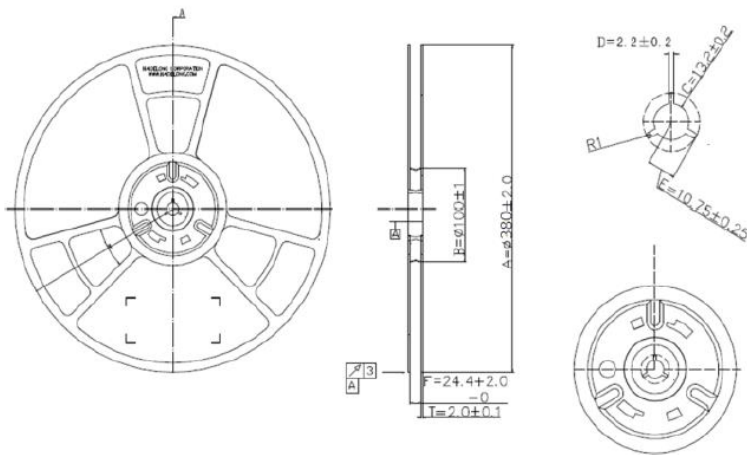
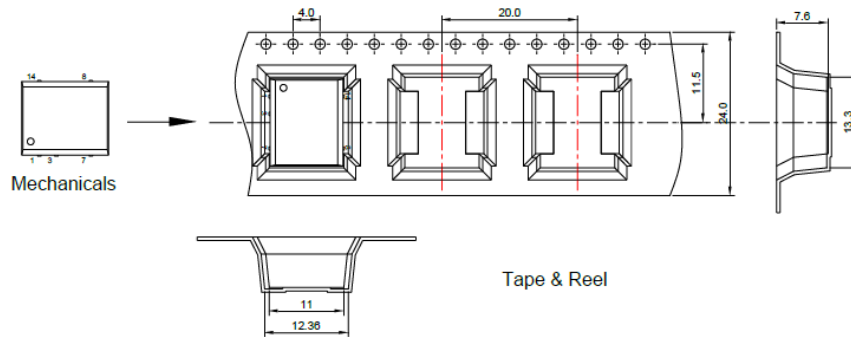
PACKAGING

1/2/4 Package

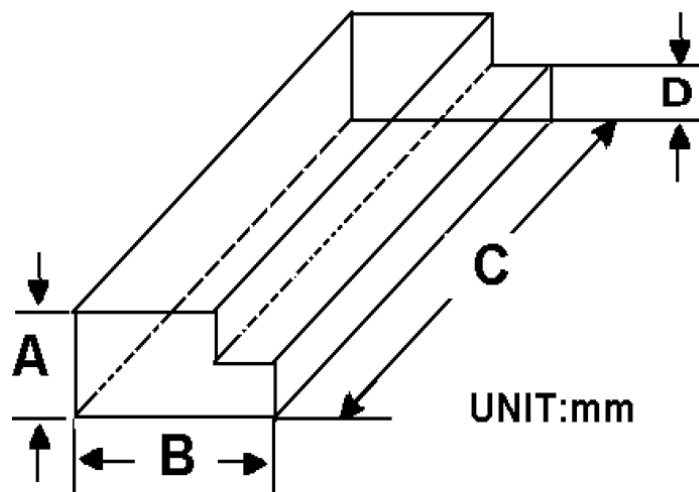


Tape & Reel----- 500 pcs

3 Package



Tape & Reel----- 500 pcs



TUBE-----39pcs

Size (mm)			
A	B	C	D
9.50	16.50	522	5.00

COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

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