Specifications (measured @ Ta= 25°C, nom. Vin (115/230VAC), full load and after warm-up unless otherwise stated)

BASIC CHARACTERISTICS

Parameter	Condition		Min.	Typ.	Max.
Input Voltage Range [3,4]	nom. Vin = 230VAC		85VAC 120VDC	277VAC	305VAC 430VDC
Input Current	115VAC 230VAC			47mA 30mA	
Inrush Current	cold start at +25°C	115VAC 230VAC			15A 30A
No load Power Consumption	85-305VAC, 47-63Hz				35mW
Input Frequency Range	AC Input		47Hz		440Hz
Minimum Load [5]				2%	
Hold-up Time	115VAC		18ms		
Internal Operating Frequency	100% load at nominal Vin			55kHz	
Output Ripple and Noise [6]	20MHz BW	3.3V all others			300mVp-p 250mVp-p

Notes:

Note3: The products were submitted for safety files at AC-Input operation

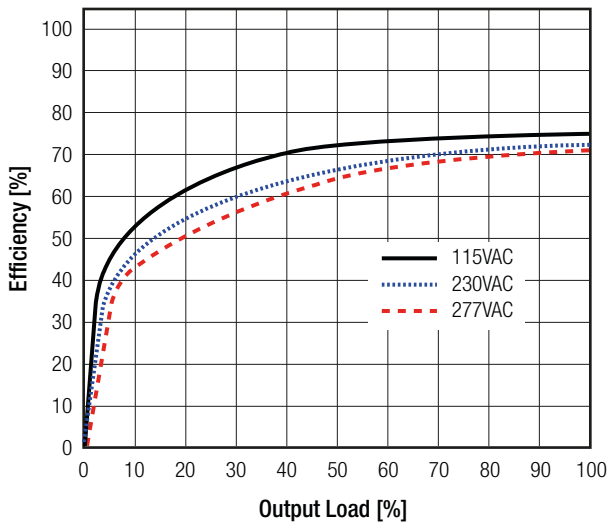
Note4: No line derating required

Note5: Operation below 2% load will not harm the converter, but specifications may not be met

Note6: Ripple and Noise is the maximum peak-to-peak voltage value measured at the output with a 20MHz bandwidth, at rated line voltage at full load. And with a 47µF low-ESR electrolytic capacitor in parallel with a 0.1µF ceramic capacitor across output

Efficiency vs. Load

RAC02-05SE/277



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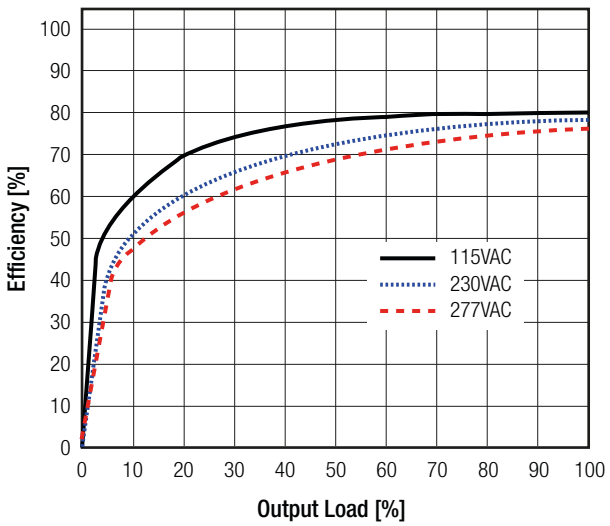

REGULATIONS

Parameter	Condition	Value
Output Accuracy [7]		±6.0% max.
Line Regulation	low line to high line, full load	±1.5% max.
Load Regulation	2% to 100% load	6.0% typ.

Notes:

Note7: Includes initial voltage accuracy, thermal drift, line regulation and load regulation at rated input voltage and load conditions

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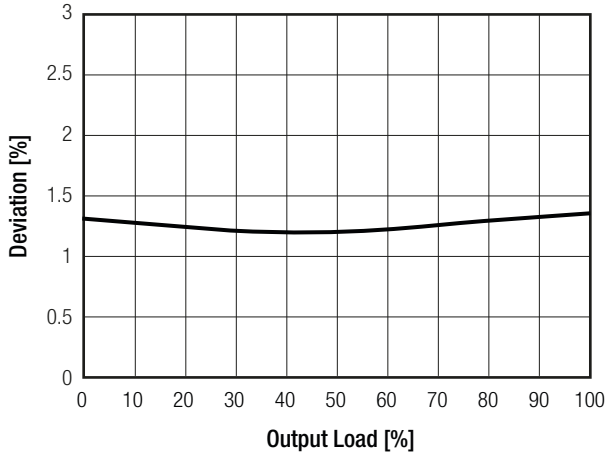
Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

Deviation vs. Load
(at 115VAC, 230VAC, 277VAC)

RAC02-05SE/277



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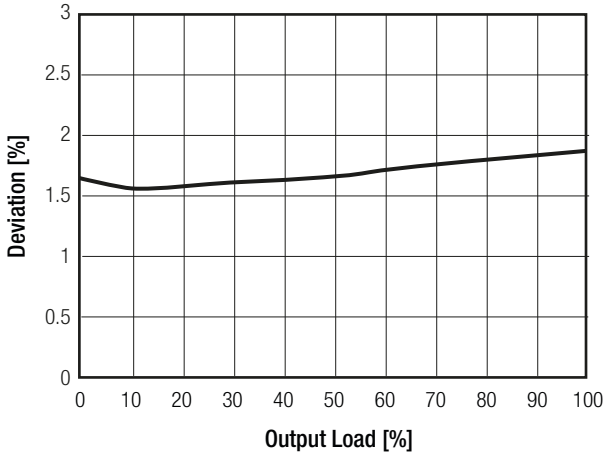


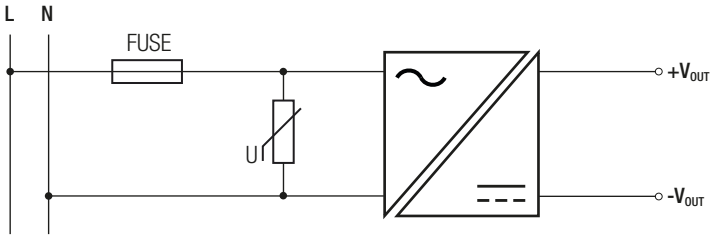
PROTECTIONS

Parameter	Type		Value
Short Circuit Protection (SCP)	below 100mΩ		continuous, automatic recovery
Over Voltage Protection (OVP)	zener diode clamp		110% - 140%
Over Voltage Category			OVCII
Over Current Limit			110% - 190%
Isolation Voltage	tested for 1 minute	I/P to O/P	3kVAC
Isolation Resistance			1GΩ min.
Leakage Current	85-305VAC, 47-63Hz		10µA max.

Notes:

Note8: Refer to local wiring regulations if input over-current protection is also required. Recommended fuse: T1A slow blow type

Note9: An external MOV is recommended. The Varistor should comply with IEC-61051-2. e.g. EPCOS S 14 Series



ENVIRONMENTAL

Parameter	Condition			Value
Operating Temperature Range	@ natural convection 0.1m/s, 140-305VAC	full load		-40°C to +75°C
		refer to derating graph		-40°C to +85°C
Maximum Case Temperature				+105°C
Thermal Impedance				8.5°C/W typ.
Operating Humidity	non-condensing			5% - 95% RH max.
Vibration				according to MIL-STD-202G standard
MTBF	according to MIL-HDBK-217F, G.B.	+25°C	115VAC 230VAC	2238 x 10^3 hours 1670 x 10^3 hours

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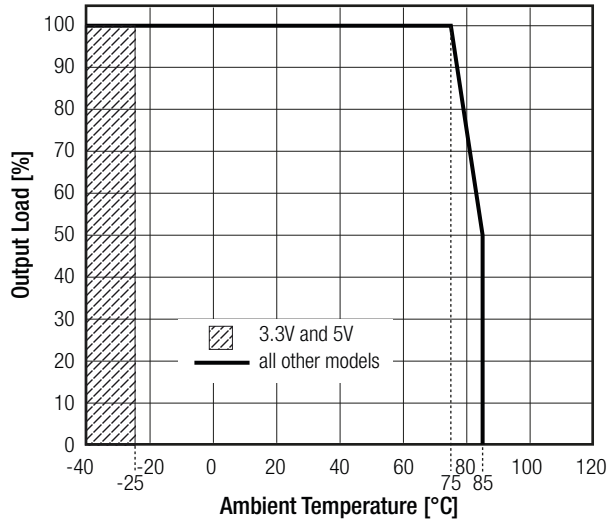
Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

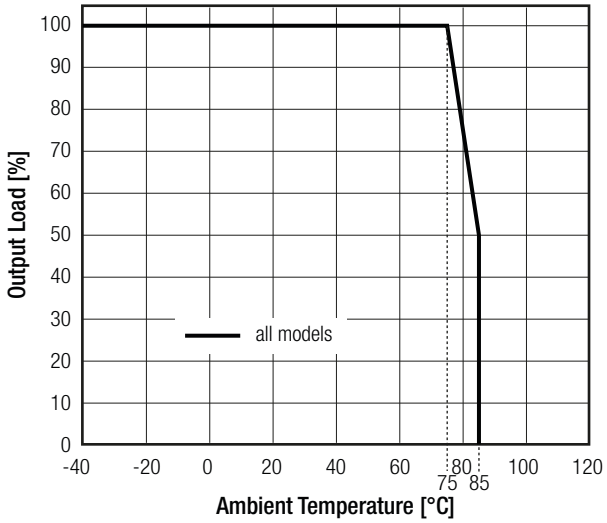
Derating Graph

(@ Chamber and natural convection 0.1m/s)

@ 85-140VAC



@ 140-305VAC



SAFETY AND CERTIFICATIONS

Certificate Type (Safety)	Report / File Number	Standard
Information Technology Equipment - General Requirments for Safety (CB Scheme)	L0339L26-CB-1-B4	IEC60950-1:2005, 2nd Edition + A2:2013 EN60950-1:2006 + A2:2013
Information Technology Equipment, General Requirements for Safety	E224736-A24-UL	UL60950-1, 2nd Edition, 2014 CAN/CSA-C22.2 60950-1, 2nd Edition, 2014
Household and similar electrical appliances - Safety - Part 1: General requirements	L0339L26-B2-L	EN60335-1:2012 + A11:2014
EAC Safety of Low Voltage Equipment	RU-AT.49.09571	TP TC 004/2011
RoHS2+		RoHS-2011/65/EU + AM-2015/863

EMC Compliance (Industrial)	Condition	Standard / Criterion
Electromagnetic compatibility of multimedia equipment – Emission Requirements		EN55032:2015, Class B
Information technology equipment - Immunity characteristics - Limits and methods of measurement		EN55024:2010
ESD Electrostatic discharge immunity test	±8kV air, ±4kV contact	EN61000-4-2:2009, Criteria B
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	EN61000-4-3:2006 + A2:2010, Criteria A
Fast Transient and Burst Immunity	AC Power Port: ±1.0kV	EN61000-4-4:2012, Criteria A
Power Magnetic Field Immunity	50Hz, 1A/m	EN61000-4-8:2010, Criteria A
Voltage Dips and Interruptions	Voltage Dips >95% Voltage Dips 30% Voltage Interruptions >95%	EN61000-4-11:2004, Criteria A EN61000-4-11:2004, Criteria A EN61000-4-11:2004, Criteria B
Limits of Voltage Fluctuations & Flicker		EN61000-3-3:2013

EMC Compliance (Household)	Condition	Standard / Criterion
Electromagnetic compatibility - Requirements for household appliances, electric tools and similar apparatus - Part 1: Emission		EN55014-1:2006+A2:2011
Information technology equipment - Immunity characteristics - Limits and methods of measurement		EN55014-2:2015
ESD Electrostatic discharge immunity test	±8kV air, ±4kV contact	IEC61000-4-2:2008, Criteria A
Radiated, radio-frequency, electromagnetic field immunity test	3V/m	IEC61000-4-3:2006 + A2:2010, Criteria A
Fast Transient and Burst Immunity	AC Power Port: ±1kV DC Output: ±0.5kV	IEC61000-4-4:2012, Criteria A

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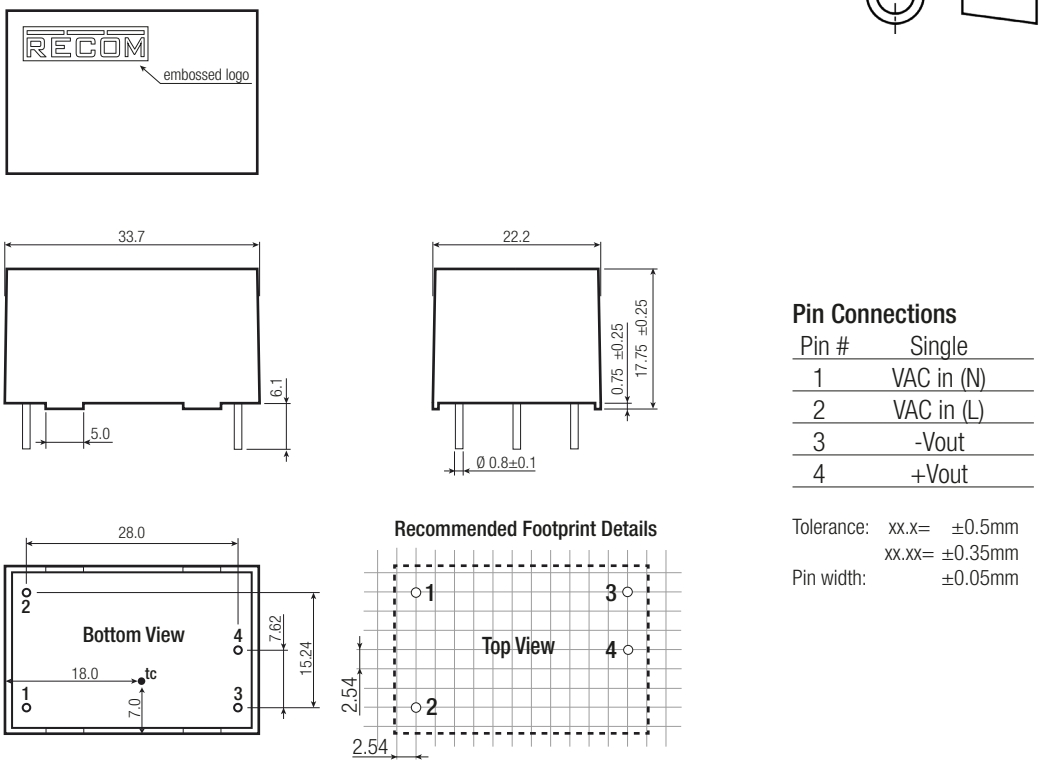
Specifications (measured @ Ta= 25°C, nom. Vin, full load and after warm-up unless otherwise stated)

SAFETY AND CERTIFICATIONS		
EMC Compliance (Household)	**Condition**	**Standard / Criterion**
Surge Immunity	AC Power Port:L to N ±2kV DC Output: L to N ±1kV	IEC61000-4-5:2014, Criteria B
Immunity to conducted disturbances, induced by radio-frequency fields	3 Vr.m.s.	IEC61000-4-6:2013, Criteria A
Voltage Dips and Interruptions	Voltage Dips >95% Voltage Dips 30% Voltage Interruptions >95%	IEC61000-4-11:2004, Criteria B IEC61000-4-11:2004, Criteria C IEC61000-4-11:2004, Criteria C
Limits of Harmonic Current Emissions		EN61000-3-2:2014
Limits of Voltage Fluctuations & Flicker		EN61000-3-3:2013

DIMENSION AND PHYSICAL CHARACTERISTICS		
Parameter	**Type**	**Value**
Material	case potting	black plastic, (UL94V-0) silicone, (UL94V-0)
Dimension (LxWxH)		33.70 x 22.20 x 17.75mm
Weight		24.5g typ.

Dimension Drawing (mm)



Pin Connections

Pin #	Single
1	VAC in (N)
2	VAC in (L)
3	-Vout
4	+Vout

Tolerance: xx.x= ±0.5mm
xx.xx= ±0.35mm
Pin width: ±0.05mm

PACKAGING INFORMATION		
Parameter	**Type**	**Value**
Packaging Dimension (LxWxH)	tube	520.0 x 37.0 x 28.0mm
Packaging Quantity		22pcs
Storage Temperature Range		-40°C to +85°C