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With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China



Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

BASIC CHARACTERISTICS

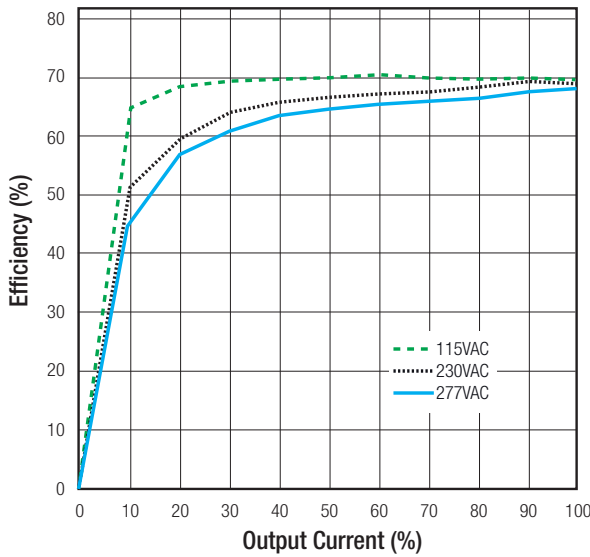
Parameter	Condition	Min.	Typ.	Max.
Operating Frequency	full load		67kHz	
Efficiency				see Selection Guide
Minimum Load	RAC04-0512DC/277(-E) All Others		$\pm 5\% / \pm 0\%$ 0%	
Output Ripple and Noise ⁽⁴⁾			200mVp-p	

Notes:

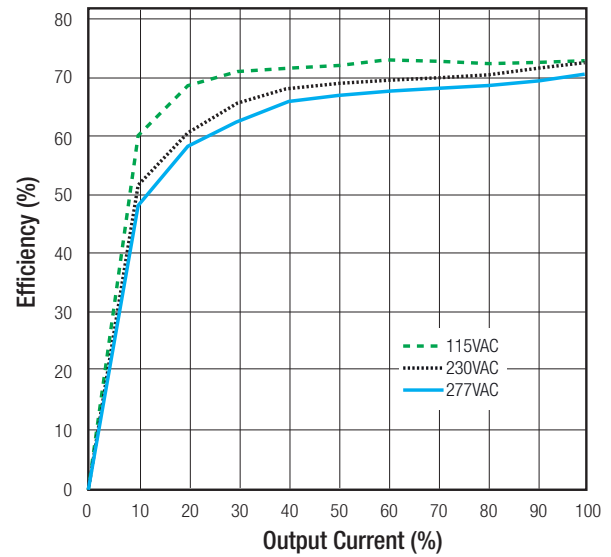
Note4: Ripple and Noise is measured at 20MHz bandwidth and with a 47 μF low-ESR electrolytic capacitor in parallel with a 0.1 μF ceramic capacitor across output.

Efficiency vs. Load

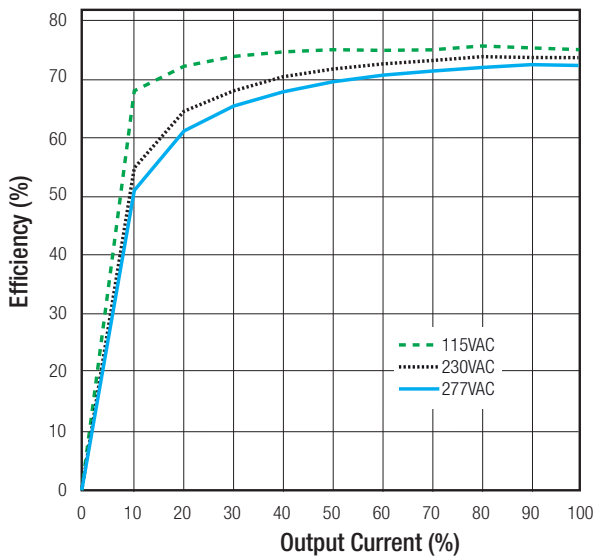
RAC04-3.3SC/277 (-E)



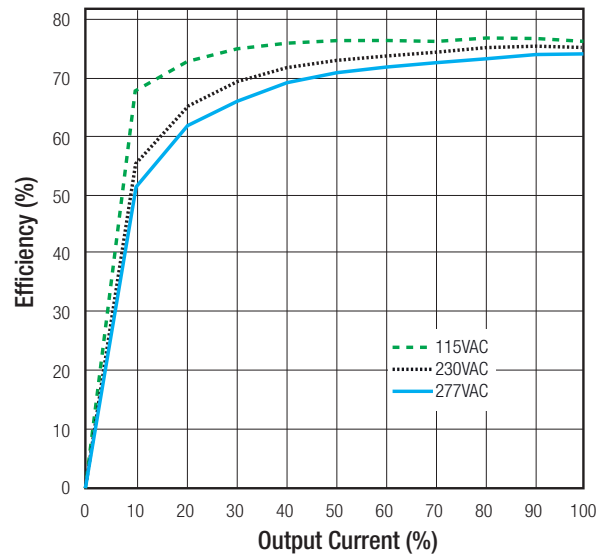
RAC04-05SC/277 (-E)



RAC04-12SC/277 (-E)



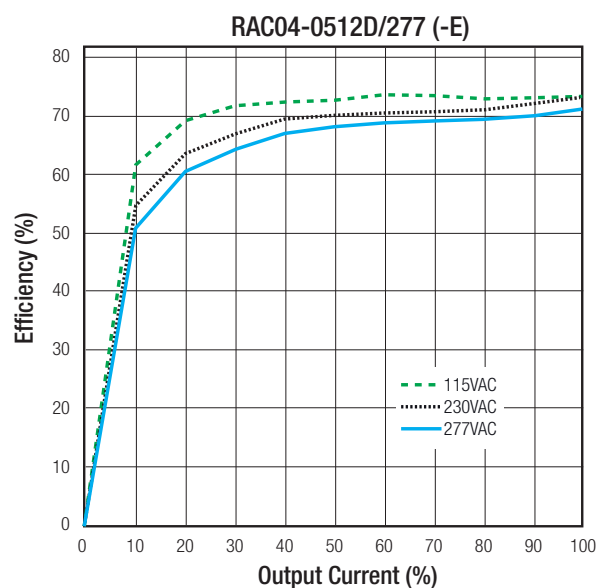
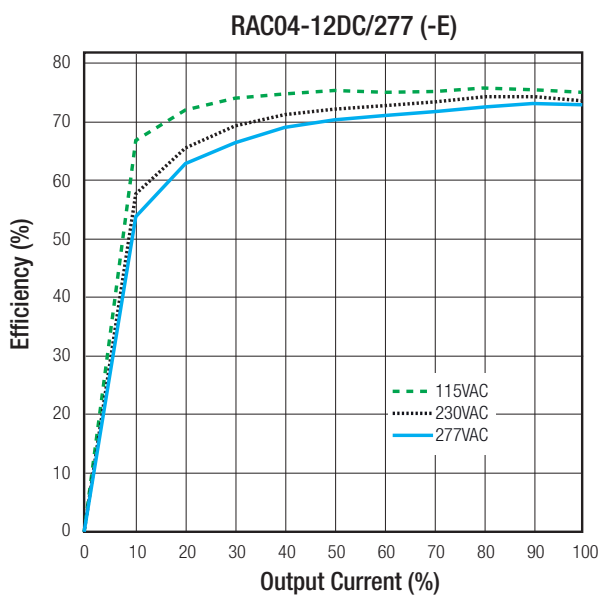
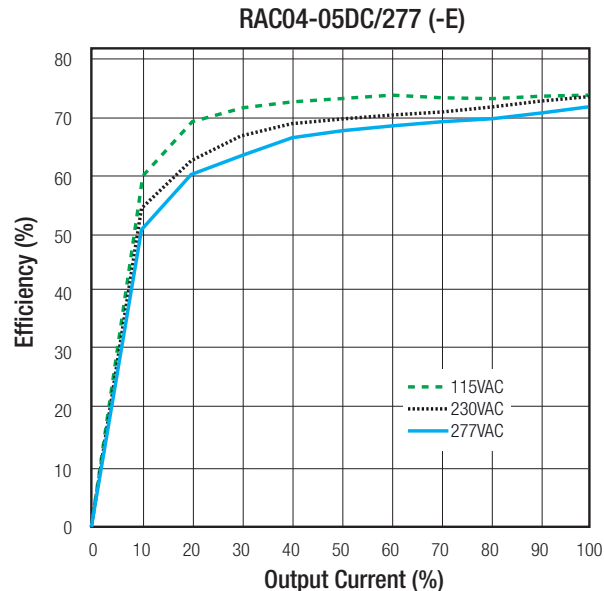
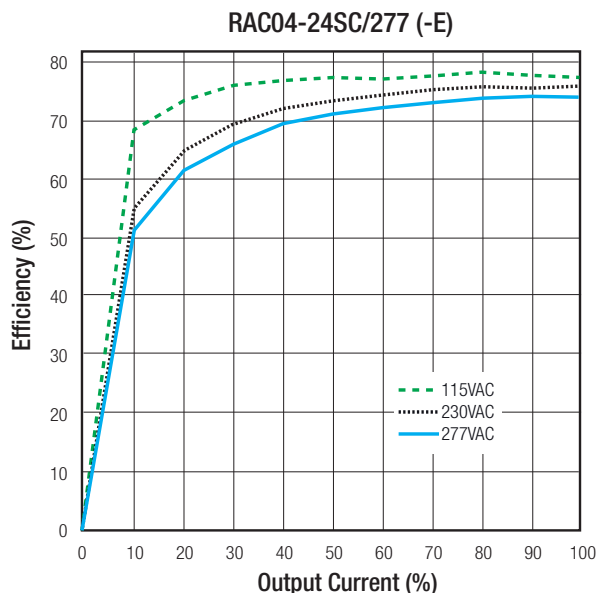
RAC04-15SC/277 (-E)



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Specifications (measured at $T_A=25^{\circ}\text{C}$, nominal input voltage, full load and after warm-up)

Efficiency vs. Load



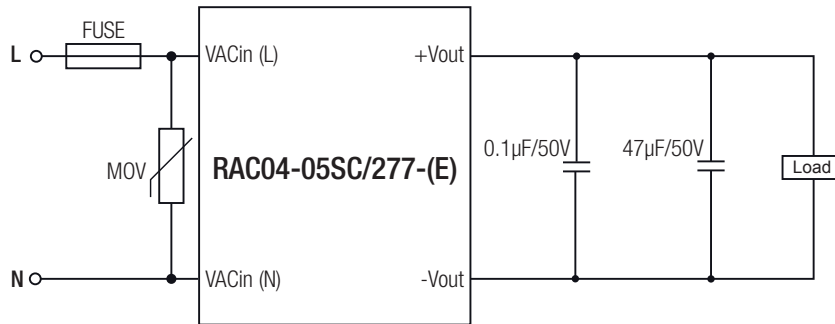
REGULATIONS

Parameter	Condition	Value
Output Voltage Tolerance	RAC04-0512DC/277(-E)	$\pm 2\% / \pm 10\%$ typ.
	All Others	$\pm 2\%$ typ.
Line Voltage Regulation	90-305VAC, RAC04-0512DC/277(-E)	$\pm 0.2\% / \pm 1\%$ typ.
	90-305VAC, All Others	$\pm 0.2\%$ typ.
Load Voltage Regulation (5V minimum load 5% @12V full load)	3.3V, 5V	$\pm 1\%$ typ.
	RAC04-0512DC/277(-E)	$\pm 1\% / \pm 5\%$ typ.
	All Others	$\pm 0.5\%$ typ.

Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

PROTECTIONS		
Parameter	Type	Value
Short Circuit Protection (SCP)		automatic recovery
Isolation Voltage	I/P to O/P	3.75kVAC / 1 Minute
Isolation Resistance		100M Ω min.
Leakage Current	277VAC / 50Hz	0.25mA max.

Application Note



Notes:

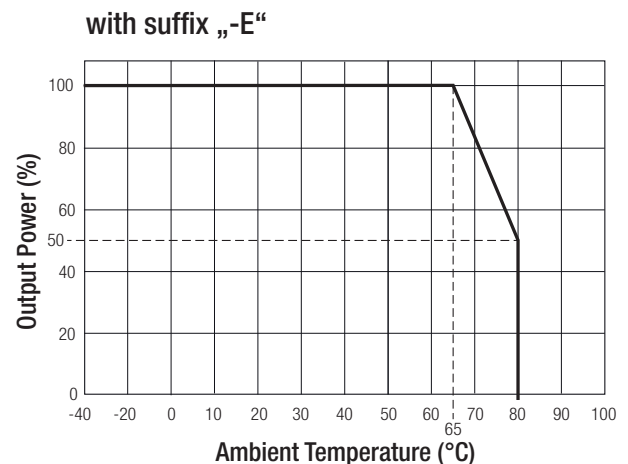
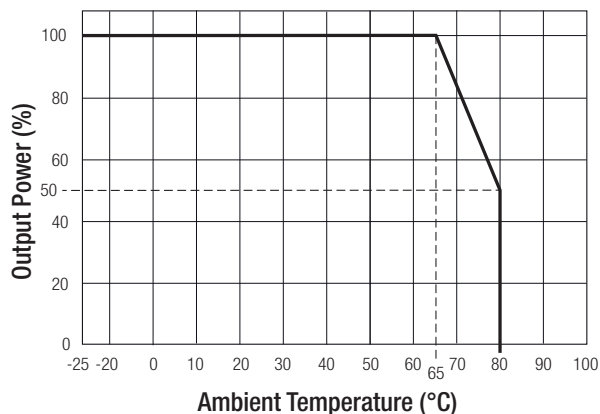
Note5: An external input fuse is recommended: T1A slow blow type

Note6: To measure the output ripple and noise short runs by 0.1 $\mu\text{F}/50\text{V}$ & 47 $\mu\text{F}/50\text{V}$ @20MHz, nominal input and full load.

Note7: An external MOV is required for 230VAC operation. (MOV model: shall comply with IEC 61051-2, e.g. Epcos S14 Series.)

ENVIRONMENTAL		
Parameter	Condition	Value
Operating Temperature Range	230VAC, with derating (see graph)	-25 $^\circ\text{C}$ to +80 $^\circ\text{C}$
	with suffix "-E", with derating (see graph)	-40 $^\circ\text{C}$ to +80 $^\circ\text{C}$
Maximum Case Temperature		90 $^\circ\text{C}$
Thermal Impedance		10 $^\circ\text{C}/\text{W}$
Humidity	non-condensing	95%, RH max.
MTBF ⁽⁶⁾	MIL-HDBK-217F, +25 $^\circ\text{C}$	500 x 10 ³ hours

Derating Graph



Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

SAFETY AND CERTIFICATIONS

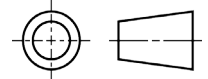
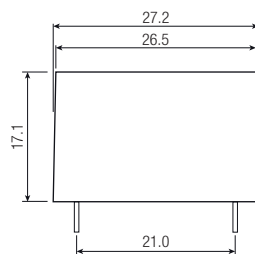
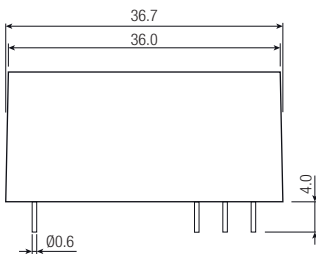
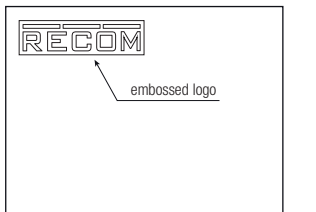
Certificate Type	Report / File Number	Standard
CB Report	1310055-1-CB-M1	IEC-60950-1, 2nd Edition
EN General Safety	SPCLVD1310055-1-M1	EN-60950-1, 2nd Edition
UL General Safety	E224736-X1-A18	UL-60950-1, 2nd Edition, 2011
Canada General Safety		CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2011

Certificate Type (Environmental)	Report / File Number	Standard / Criterion
EMI Standard	Report: T160225D10-E	EN55022, Class B EN55024
ESD	Report: T160225D10-E	EN61000-4-2, Criteria B
Radiated Immunity		EN61000-4-3, Criteria A
Fast Transient		EN61000-4-4, Criteria B
Surge		EN61000-4-5, Criteria B
Conducted Immunity		EN61000-4-6, Criteria A
Voltage dips and variations		EN61000-4-8, Criteria A
Harmonic Current Emissions		EN-61000-3-2
Voltage flicker		EN-61000-3-3
Vibration		MIL-STD-202G
Over Voltage Category		OVC II

DIMENSION and PHYSICAL CHARACTERISTICS

Parameter	Type	Value
Case Material		UL94V-0, black plastic
Potting Material		UL94V-0, Silicone
Package Dimension (LxWxH)		36.7 x 27.2 x 17.1mm
Package Weight		41g typ.

Dimension Drawing (mm)

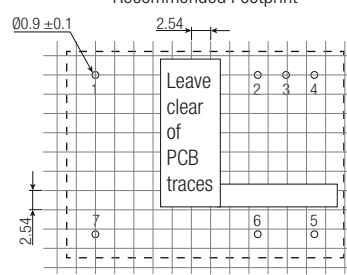
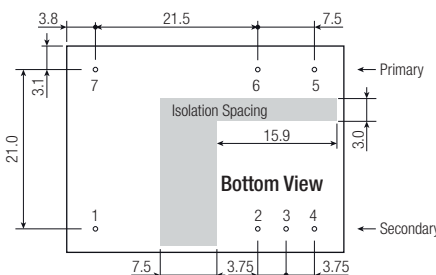


Pin Connections

Pin #	Single	Dual	Dual (asymmetric)
2	+VDC out	+VDC out	+5V
3	-VDC out	Com	Com
4	NC	-VDC out	+12V
5	VAC in (L)	VAC in (L)	VAC in (L)
6	VAC in (N)	VAC in (N)	VAC in (N)
7	NC	NC	NC

NC= no connection
Tolerance: xx.x= $\pm 0.5\text{mm}$
xx.xx= $\pm 0.35\text{mm}$
Pin width: $\pm 0.05\text{mm}$

Recommended Footprint



Specifications (measured at $T_A = 25^\circ\text{C}$, nominal input voltage, full load and after warm-up)

PACKAGING INFORMATION		
Parameter	Type	Value
Packaging Dimension (LxWxH)	Tube	520 x 32 x 27mm
Packaging Quantity		12 pcs.
Storage Temperature Range		-40°C to $+100^\circ\text{C}$