

Features

Regulated Converters

- Regulated Power Supply
- Constant Voltage / Constant Current Output
- Continuous Short Circuit Protection
- Isolated Output 3kVAC / 1 min
- Meet EN55022 and FCC Class B
- Ultra-low Stand-By Power Consumption

Selection Guide

Part Number	Input Range (VAC)	Output Voltage (VDC)	Output Current (mA)	Typical Efficiency (%)	Constant Current Range* (mA)	Max. Capacitive Load
RAC03-3.3SCR/277*	85-305	3.3	900	69	950-1200	22000
RAC03-05SCR/277*	85-305	5	600	71	650-850	10000
RAC03-12SCR/277*	85-305	12	250	76	280-370	1500
RAC03-24SCR/277*	85-305	24	125	78	140-185	200

* add „-Tray“ for Tray packaging, e.g. RAC03-05SCR/277-Tray

Specifications (measured at TA 25°C)

Input Voltage Range	85-305VAC or 120-430VDC	
Rated Power	3 Watts	
Input Frequency Range (for AC Input)	47-440Hz	
Input Current (Full Load)	115VAC / 230VAC	70mA / 45mA typ.
No Load Power Consumption	85-305VAC / 47-440Hz	40mW max.
Inrush Current (<2ms)	115VAC	15A max.
	230VAC	30A max.
Output Voltage	3.3V-24V	
Output Voltage Tolerance**	3.3V	±4% typ. / ±8% max.
	5V	±3% typ. / ±5% max.
	12V / 24V	±2.5% typ. / ±3.5% max.
Output Current	see Selection Guide	
Output Ripple & Noise*** (with 47µF + 0.1µF on output)	3.3V	200mVp-p
	others	150mVp-p
Switching Frequency	@ Full Load	45KHz typ.
Minimum Load	Specification valid	10%
Line Voltage Regulation	LL-HL @ Full Load	±0.7% typ. / ±1% max.
Load Regulation (10%-100% Load)	3.3V	±5.5% typ. / ±9% max.
	5V	±5% typ. / ±7.5% max.
	12V	±4% typ. / ±5.5% max.
	24V	±3.5% typ. / ±4.5% max.
Leakage Current	85-305VAC / 47-440Hz	10mA max.
Isolation Voltage	3kVAC / 1 minute	
Isolation Resistance	1GΩ min	
Short Circuit Protection	Continuous, Auto Restart	
Over Current Limit	105% - 150%	
Over Voltage Protection (Zener diode clamp)	130%-160%	
Operating Temperature Range	natural convection, without derating	-25°C to +75°C
	natural air convection, with derating	-25°C to +85°C
Storage Temperature Range	-40°C to +85°C	
Relative Humidity	95% RH max.	
Case Material	UL94V-0 Black Plastic	
Potting Material	Epoxy	

continued on next page

POWERLINE

AC/DC-Converter

with 3 year Warranty

RECOM

3 Watt Single Output



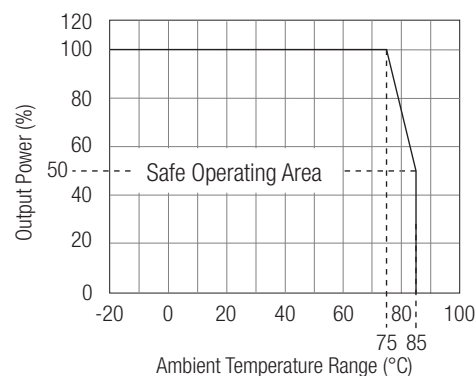
CE Marked

UL-60590-1 Certified

RAC03-SCR/277

Derating Graph

(Ambient Temperature)



Specifications (measured at TA 25°C)

Package Weight	41g typ.	
Package Quantity	12pcs	
	„-Tray“-Version	72pcs
Physical Dimension (LxWxH)	50.3 x 50.3 x 11.0mm	
RoHS	Test Report: KA/2012/91224	
EMC	EN55022 Class B	
UL General Safety	File Number: E224736	UL-60950-1
EN General Safety	Report: TI20925N01-E	EN-55022: 2010 Class B, EN55024:2010
MTBF	TA = 25°	1300 x 10 ³ hours
(using MIL-HDBK-217F)	TA = 75°	160 x 10 ³ hours

Notes:

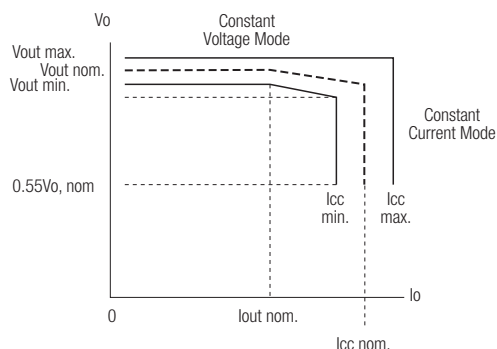
*The “constant current operation range” is over 55% - 90% of Vo nom. The specification includes all the tolerances of current accuracy, line regulation and load regulation. Typically, the constant current tolerance could be within $\pm 7\%$.

**The “output voltage tolerance” includes initial voltage accuracy, thermal drift, line regulation and load regulation at rated input voltage and load conditions.

***“Ripple and Noise” is the maximum peak-to-peak voltage value measured at the output with a 20 MHz bandwidth, at rated line voltage at full load.

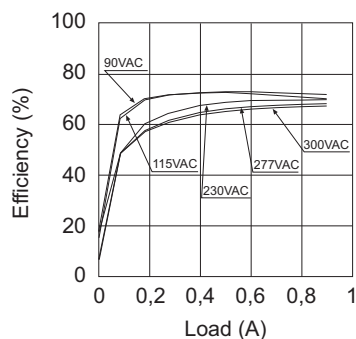
RAC03-xxSCR/277

Output V-I Characteristics

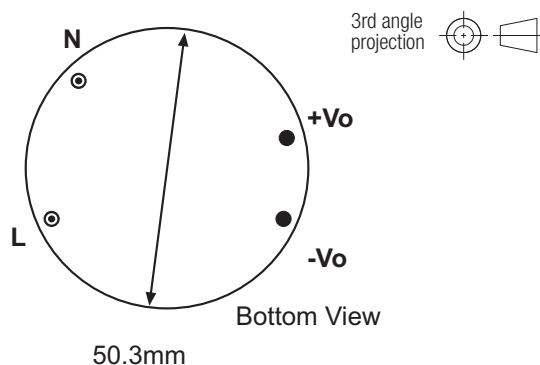
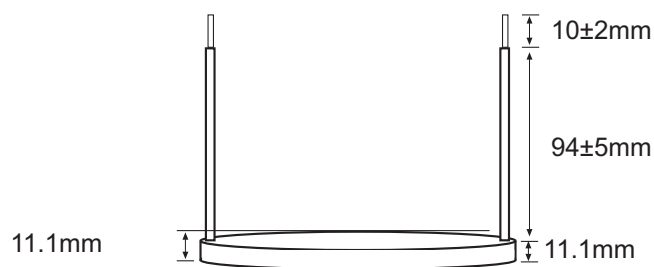


RAC03-3.3SCR/277

Efficiency vs Load



Mechanical Dimension



Wire Connections

Wire

1 (Brown)	AWG#22	1015	VAC in (L)
2 (Blue)	AWG#22	1015	VAC in (N)
3 (Red)	AWG#22	1007	+VDC out
4 (Black)	AWG#22	1007	-VDC out

Tolerance $\pm 0.5\text{mm}$ unless otherwise specified