

# Features

## Regulated Converters

- 1:1 Input Range
- Efficiency up to 69%
- 1kVDC and 2kVDC Isolation Option
- 1W SMD Package
- -40°C to +85°C Operating Temperature Range
- Continuous Short Circuit Protection

### Selection Guide

Part Number SMD	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (typ.)	Capacitive Load (max.)
RAZ-0505S*	5	5	200	67%	2200µF
RAZ-1205S*	12	5	200	68%	2200µF
RAZ-2405S*	24	5	200	69%	2200µF

\* add Suffix "/H" for 2kVDC/1min. Isolation - e.g. RAZ-0505S/H

\* add Suffix "-R" for tape & reel packing - e.g. RAZ-1205S-R, RAZ-2405S/H-R

### Specifications (measured at $T_A = 25^\circ\text{C}$ , nominal input voltage and rated output current unless otherwise specified)

Input Voltage Range			±10% max.
Output Voltage Accuracy			-1% typ., ±5% max.
Line Voltage Regulation	(low line to high line at max. load)	1% max.	
Load Voltage Regulation	(10% to 100% full load)	1% max.	
Output Ripple and Noise (20MHz BW)			50mVp-p typ., 75mVp-p max.
Operating Frequency ( $V_{in}$ =nominal input)			20kHz min. / 35kHz typ. / 60kHz max.
Efficiency at Full Load			see Selection Guide
Minimum Load = 0%	Specifications valid for 10% minimum load only		
Isolation Voltage (tested for 1 minute)	RAZ-xx05S	1000 VDC	
	RAZ-xx05S/H	2000 VDC	
Isolation Capacitance			6pF typ., 10pF max.
Isolation Resistance	(Viso=500V)	10GΩ min.	
Short-Circuit Protection	continuous		
Operating Temperature Range	-40°C to +85°C		
Storage Temperature	-55°C to +125°C		
Relative Humidity	95% RH		
Package Weight	1.6g		
MTBF (+25°C)	} Detailed Information see Application Notes chapter "MTBF"	using MIL-HDBK 217F	3914 x 10 <sup>3</sup> hours
MTBF (+85°C)		using MIL-HDBK 217F	855 x 10 <sup>3</sup> hours

#### Certifications

EN General Safety EN60950-1, 2nd Edition

Note 1: Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter.

**ECONOLINE**  
DC/DC-Converter

**RECOM**

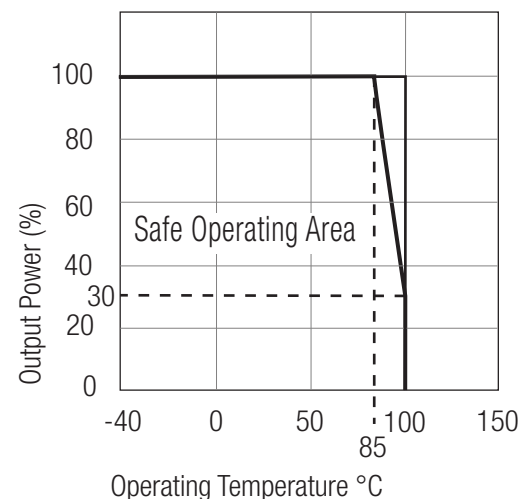
## 1 Watt SMD Single Output



**EN-60950-1 Certified**

**RAZ**

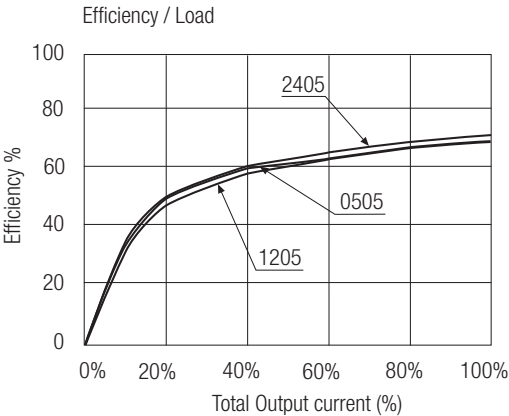
## Derating-Graph (Ambient Temperature)



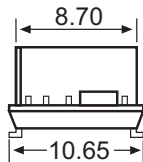
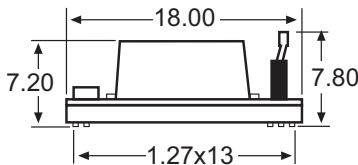
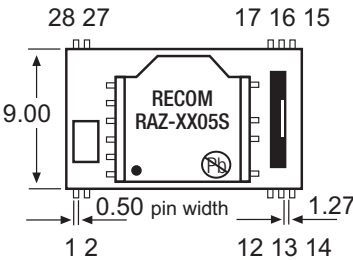
Refer to Application Notes

## ECONOLINE DC/DC-Converter

### Typical Characteristics



### Package Style and Pinning



3rd angle projection

**Pin Connections**

Pin #	Function
1,2	+Vin
12,15~17,28	NC
13	-Vout
14	+Vout
27	-Vin

NC = No Connection

Unit: mm  
 Tolerance: ± 0.25 mm

RAZ