

# 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

**ECONOLINE**  
DC/DC-Converter

**RECOM**

### 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

## 1 Watt SMD Single Output



### Specifications (measured at T<sub>A</sub> = 25°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 (Vin=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 second)	1250 VDC	
	(rated for 1 minute**)	1000 VDC	
Isolation Voltage	H-Suffix (tested for 1 second)	2500 VDC	
	H-Suffix (rated for 1 minute**)	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

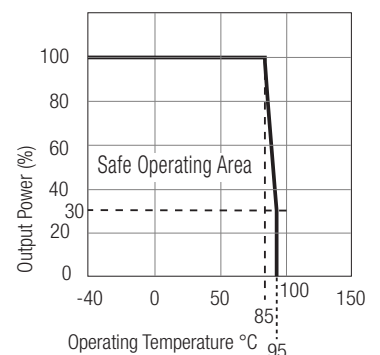
#### Certifications

EN General Safety	Report: SPCLVD1112018	EN60950-1, 2nd Edition
EN Medical Safety	Report: MDD1112018 + RM1112018 Medical Report + ISO14971 Risk Assessment	IEC/EN 60601-1 3rd Edition

**EN-60950-1 Certified**  
**EN-60601-1 Certified\***  
(\* /H suffix)

# RAZ

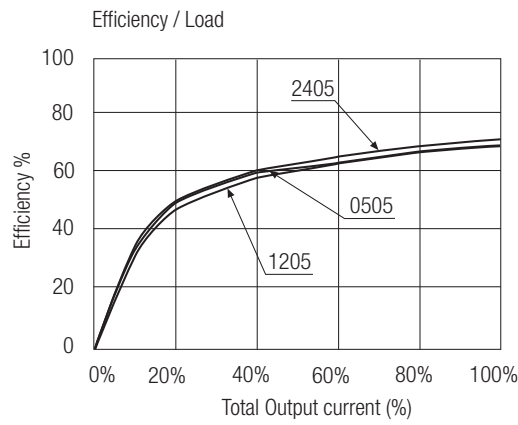
## Derating-Graph (Ambient Temperature)



Refer to Application Notes

\*\*Any data referred to in this datasheet are of indicative nature and based on our practical experience only. For further details, please refer to our Application Notes.

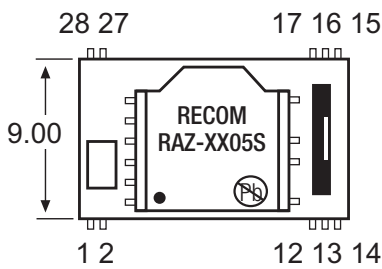
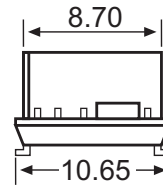
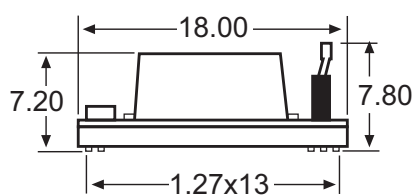
**Typical Characteristics**



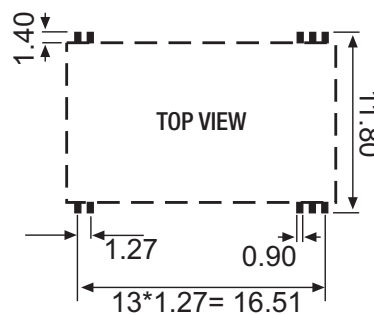
Note

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.

**Package Style and Pinning**



Recommended Footprint Details



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

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## RECOM:

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