

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

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 (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 ³ hours |
| MTBF (+85°C) | | using MIL-HDBK 217F | | 855 x 10 ³ hours |
| Certifications | | | | |
| EN General Safety | Report: SPCLVD1112018 | | EN60950-1, 2nd Edition | |
| EN Medical Safety | Report: MDD1112018 + RM1112018 | | IEC/EN 60601-1 3rd Edition | |
| | Medical Report + ISO14971 Risk Assessment | | | |

**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.

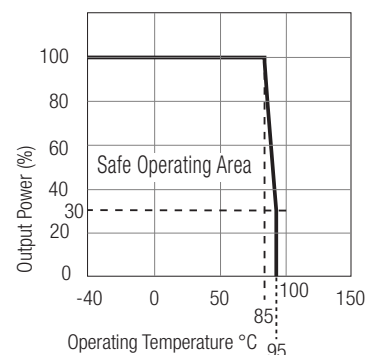
1 Watt SMD Single Output



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

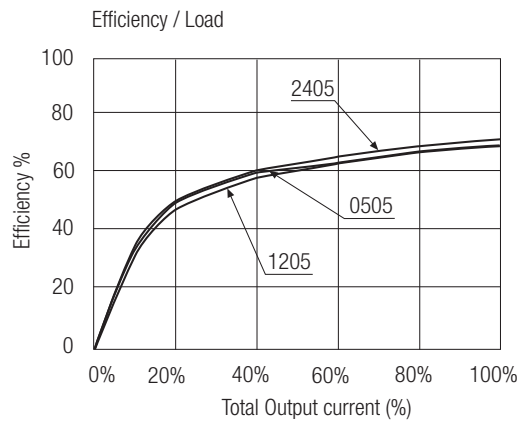
RAZ

Derating-Graph (Ambient Temperature)



Refer to Application Notes

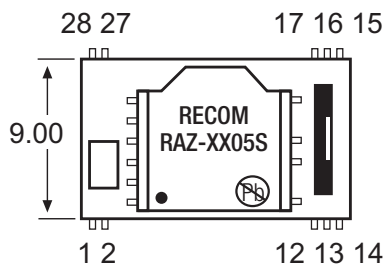
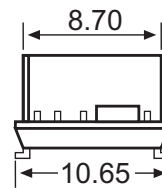
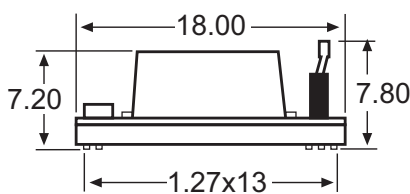
Typical Characteristics



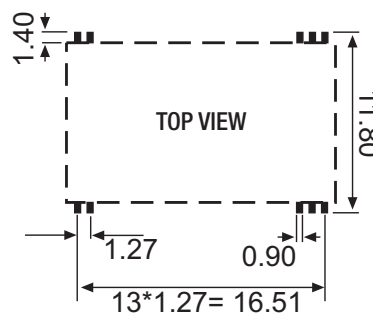
Note

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