Features

Unregulated Converters

- 1:1 Input Range
- Efficiency up to 84%
- 2kVDC and 3kVDC Isolation Option
- Approved for Medical Applications
- -40°C to +90°C Operating Temperature Range
- 2W SMD Package

ECONOLINE
DC/DC-Converter

RECOM

2 Watt SMD Single Output



RoHS 2011/65/EU 6/6

EN-60601-1 Certified
EN-60950-1 Certified

RTM

Selection Guide

Part Number SMD	Isolation Voltage (kV)	Input Voltage (VDC)	Output Voltage (VDC)	Output Current (mA)	Efficiency (max.)	Capacitive Load (max.) (1)
RTM-0505S*	2	5	5	400	79%	2200µF
RTM-1205S*	2	12	5	400	83%	2200µF
RTM-2405S*	2	24	5	400	84%	2200µF

* add Suffix "/H" for 3kVDC/1sec. Isolation e.g. RTM-0505S/H

* add Suffix "-R" for tape&reel packing e.g. RTM-1205S-R or RTM-2405S/H-R

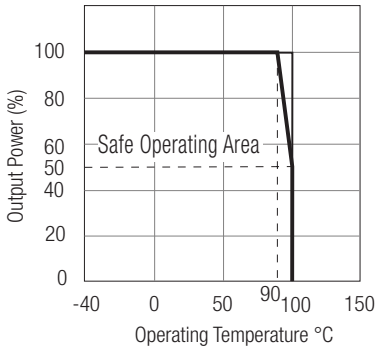
Specifications (measured at T_A = 25°C, nominal input voltage and rated output current unless otherwise specified)

Input Voltage Range			±10% max.
Output Voltage Accuracy			-1% typ., ±5% max.
Line Voltage Regulation		(low line to high line at max. load)	1.2% typ.
Load Voltage Regulation		(10% to 100% full load)	10% typ., 15% max.
Output Ripple and Noise (20MHz BW limited)			50mVp-p typ., 100mVp-p max.
Operating Frequency (Vin=nominal input)			20kHz min. / 40kHz typ. / 80kHz max.
Efficiency at Full Load			see Selection Guide
Minimum Load = 0%			Specifications valid for 10% minimum load only
Isolation Voltage		(tested for 1 second)	2000 VDC
		(rated for 1 minute**)	1600VDC
Isolation Voltage	H-Suffix	(tested for 1 second)	3000 VDC
	H-Suffix	(rated for 1 minute**)	2400VDC
Isolation Capacitance			30pF typ., 50pF max.
Isolation Resistance		(Viso=500V)	15GΩ min.
Short-Circuit Protection			1 second
Operating Temperature Range		with Derating	-40°C to +90°C
Storage Temperature			-55°C to +125°C
Reflow Temperature	RoHS compliant		245°C (30 sec.), Peak 255°C (5sec.) max.
Vapor Phase Process	(for more details see Application Notes)		230°C (90 sec.) max.
Relative Humidity			95% RH
Package Weight			1.4g
Packing Quantity		All Types	27 pcs per Tube
		All Types	500 pcs per Reel
MTBF (+25°C)	*Detailed Information see Application Notes chapter "MTBF"*	using MIL-HDBK 217F	3907 x 10^3 hours
MTBF (+85°C)		using MIL-HDBK 217F	313 x 10^3 hours
Certifications			
EN Medical Safety	Report: MDD1112018 + RM1112018		IEC/EN 60601-1 3rd Edition
	Medical Report + ISO14971 Risk Assessment		
EN General Safety	Report: SPCLVD1112018		EN60950-1, 2nd Edition

Note:

Note1: Maximum capacitive load is defined as the capacitive load that will allow start up in under 1 second without damage to the converter

Derating-Graph
(Ambient Temperature)



**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.

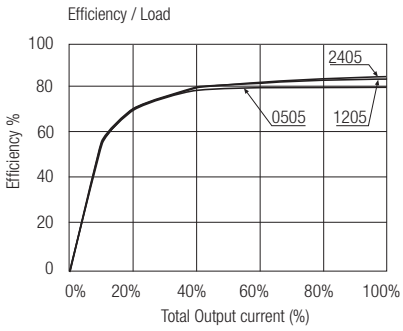
Refer to Application Notes

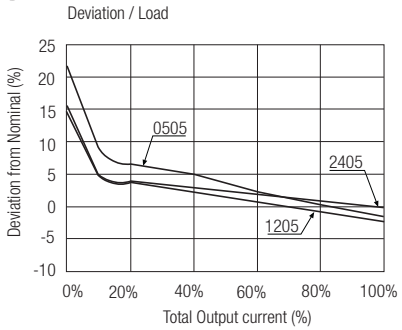
ECONOLINE
DC/DC-Converter

RTM Series

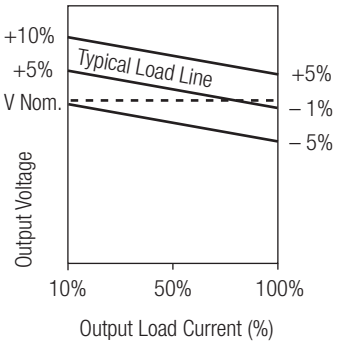
Typical Characteristics

RTM-xx05S

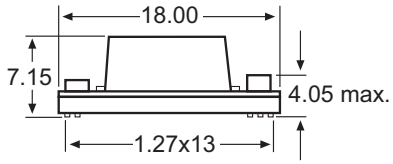


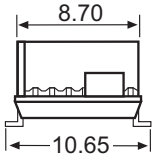


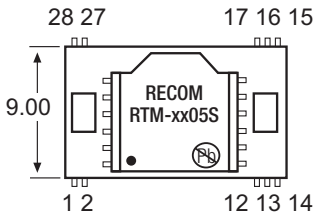
Tolerance Envelope



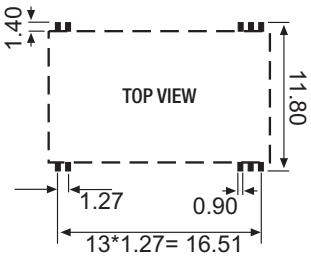
Package Style and Pinning







Recommended Footprint Details



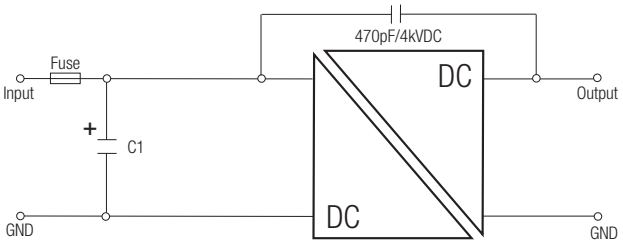
Pin Connections

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

NC = No Connection

Unit: mm
Tolerance: ± 0.25 mm

EMC Filtering - Suggestion for EN55022 Class B



Input Voltage	Inductance/ Capacitance (C1)
5V	4.7µF
12V	2.2µF
24V	47µF

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