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.)
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

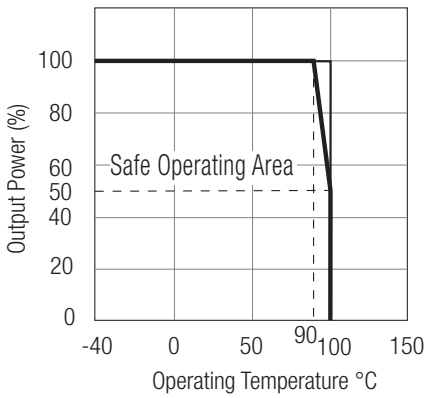
* add Suffix "-R" for tape&reel packing e.g. RTM-1205S-R or RTM-2405S/H-R

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	RTM-xx05S (tested for 1 second)	2000 VDC
	RTM-xx05S/H (tested for 1 second)	3000 VDC
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.
Vapour 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 Medical Report + ISO14971 Risk Assessment	IEC/EN 60601-1 3rd Edition
EN General Safety		EN60950-1, 2nd Edition

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

Derating-Graph
(Ambient Temperature)

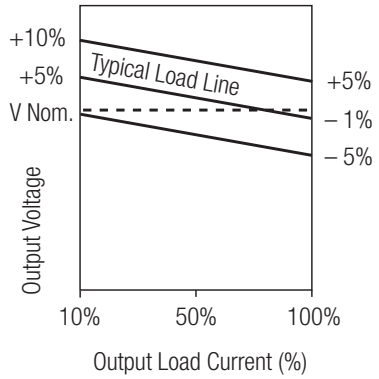


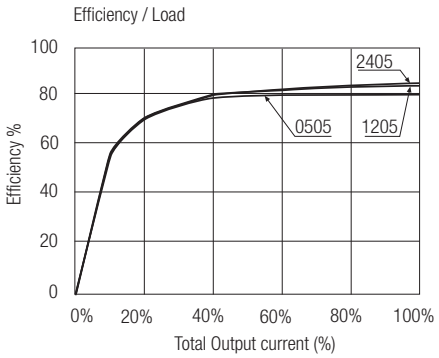
Refer to Application Notes

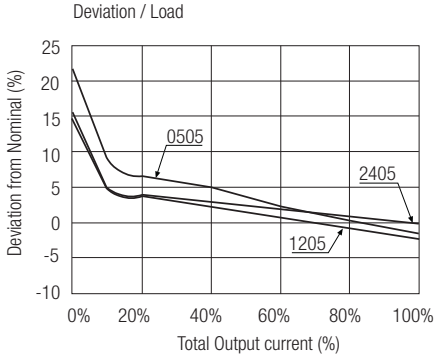
Typical Characteristics

Tolerance Envelope

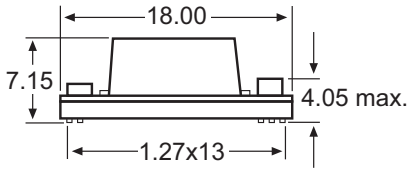
RTM-xx05S

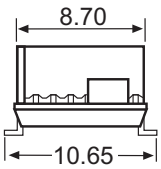




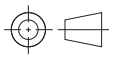


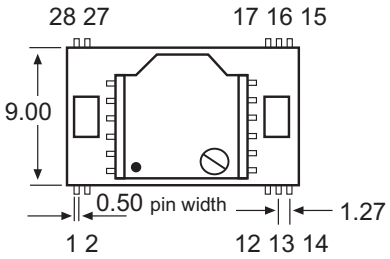
Package Style and Pinning





3rd angle projection





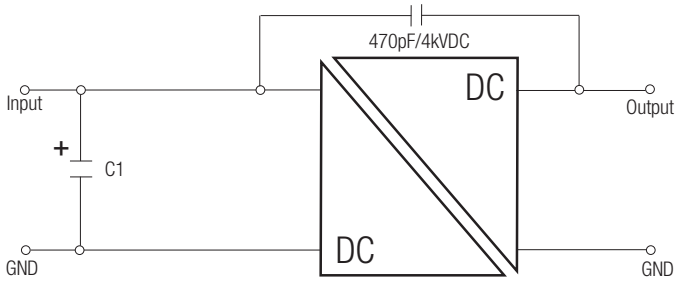
Pin Connections

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

RTM