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

Selection Guide

Part	Isolation	Input	Output	Output		Capacitive
Number	Voltage	Voltage	Voltage	Current	Efficiency	Load
SMD	(kV)	(VDC)	(VDC)	(mA)	(max.)	(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

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

Input Voltage Range				±10% max.
Output Voltage Accura	су			-1% typ., ±5% max.
Line Voltage Regulatio	n	(low line to high line at max. load)		1.2% typ.
Load Voltage Regulation	on	(10% to 100% full load)		10% typ., 15% max.
Output Ripple and Noi	se (20MHz BW limite	ed)	50mVp	-p typ., 100mVp-p max.
Operating Frequency (Vin=nominal input)		20kHz min. / 4	40kHz typ. / 80kHz max.
Efficiency at Full Load				see Selection Guide
Minimum Load = 0%		Specifi	cations valid for	10% minimum load only
Isolation Voltage		(tested for 1 second)		2000 VDC
		(rated for 1 minute	e**)	1600VDC
Isolation Voltage	H-Suffix	(tested for 1 second)		3000 VDC
	H-Suffix	(rated for 1 minute	e**)	2400VDC
Isolation Capacitance				30pF typ., 50pF max.
Isolation Resistance		(Viso=500V)		15G Ω min.
Short-Circuit Protectio	n			1 second
Operating Temperature	e Range	with Derating		-40°C to +90°C
Storage Temperature				-55°C to +125°C
Reflow Temperature	RoHS com	pliant 24	15°C (30 sec.), P	eak 255°C (5sec.) max.
Vapor Phase Process	(for more o	letails see Application	on 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 se	e using M	L-HDBK 217F	3907 x 10 ³ hours
MTBF (+85°C) ∫ ′	Application Notes chap	ter "MTBF" using M	L-HDBK 217F	313 x 10 ³ hours
Certifications				
EN Medical Safety	Report: MDD11120	18 + RM1112018	IEC/	EN 60601-1 3rd Edition
	Medical Report ± IS	014971 Risk Δεςρο	sment	

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

ECONOLINE

DC/DC-Converter



2 Watt SMD Single Output





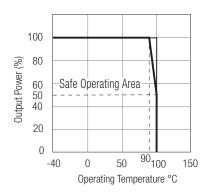


EN-60601-1 Certified EN-60950-1 Certified

RTM

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

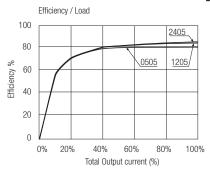
^{*} add Suffix "-R" for tape&reel packing e.g. RTM-1205S-R or RTM-2405S/H-R

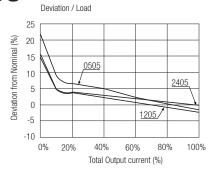
RTM Series

DC/DC-Converter

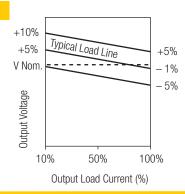
Typical Characteristics

RTM-xx05S

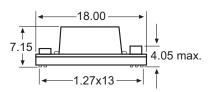




Tolerance Envelope

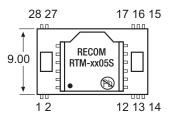


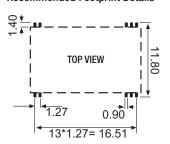
Package Style and Pinning





Recommended Footprint Details

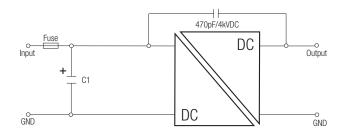




Pin #	Function	
1	+Vin	
2	-Vin	
12	-Vout	
13	+Vout	
14~17	NC	
27.28	NC	

 $\begin{array}{ll} \text{Unit:} & \text{mm} \\ \text{Tolerance:} & \pm \ 0.25 \ \text{mm} \end{array}$

EMC Filtering - Suggestion for EN55022 Class B



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

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