Technical Data Sheet

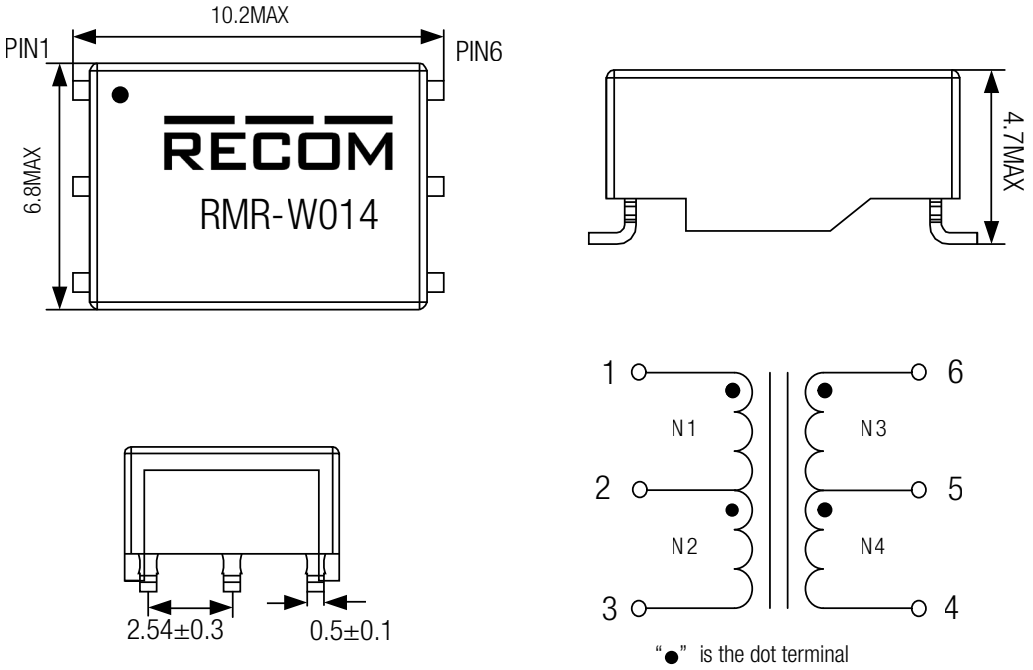
RMR-W014 ◊ Small Size Isolation Transformer

1W ◊ SMD ◊ 2.5kVAC Isolation

FEATURES

- Small-sized isolation transformer
- SMD surface mount installation
- Isolation voltage: 2500VAC/1minute
- Operating temperature: -40~125°C
- Maximum product dimensions: 10.2mm × 6.8mm × 4.7mm

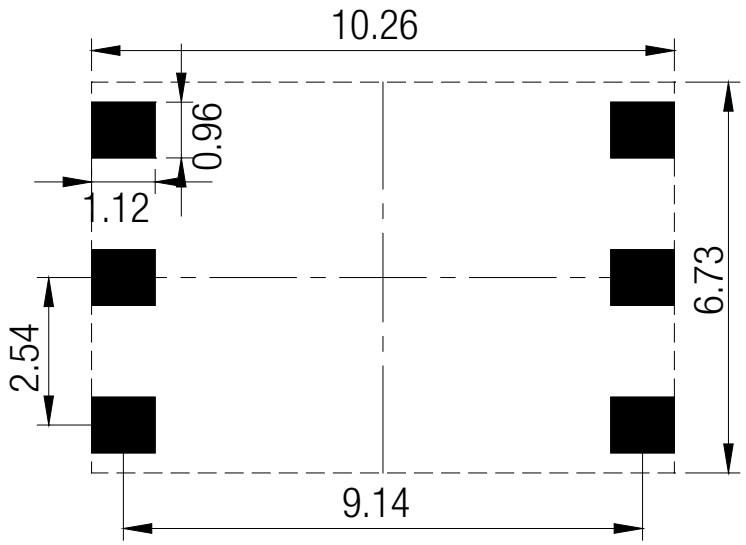
DIMENSIONS AND SCHEMATIC DIAGRAM [mm]



PRODUCT MARKING

Pin1	●
Marking	Company Logo
	Product Model

RECOMMENDED LAND PATTERN [mm]



copyright © RECOM Power GmbH, all rights reserved

RMR-W014 ◊ Small Size Isolation Transformer

1W ◊ SMD ◊ 2.5kVAC Isolation

BASIC CHARACTERISTIC (measured @ T_{AMB}= 25°C, nominal Input and full load after warm-up time unless otherwise stated)

Properties		Test Conditions	Value	Unit
Inductance	L	(N1+N2)/100kHz/0.1V	416 min.	µH
Turns ratio	n	N1:N2:N3:N4	1:1:1.3:1.3	
DC resistance 1	R_{DC1}	N1:N2/25°C	0.14 max.	Ω
DC resistance 2	R_{DC2}	N3:N4 /25°C	0.19 max.	Ω
Voltage-µSecond	$\int_{Udt}$	N1/ bipolar waveform	11.5	Vµs
Interwinding capacitance	C_{WW}	PIN1-6/100kHz/ 0.1V/25°C	20 max.	pF
Leakage inductance	L_S	N1/100kHz/0.1V, all other terminals short	0.25 max.	µH
Isolation test voltage	V_T	N1,2: N3,4/60s/1mA	2500	VAC

GENERAL INFORMATION

Operating temperature (including temperature rise)	-40~125°C
Storage temperature	-40~125°C
Storage conditions (in original packaging)	<40°C/<75%RH
Moisture sensitivity Level (MSL)	1
Insulation grade	Functional

MATERIAL CERTIFICATION

ITEM		UL NO
1	Case	E150608
2	Wire	E253843
3	Varnish	E314793

ENVIRONMENTAL COMPLIANCE

RoHS Approval	Compliant [2011/65/EU&2015/863]
REACH Approval	Conform or declared [(EC)1907/2006]
Halogen Free	Conform [EN 14582:2016]

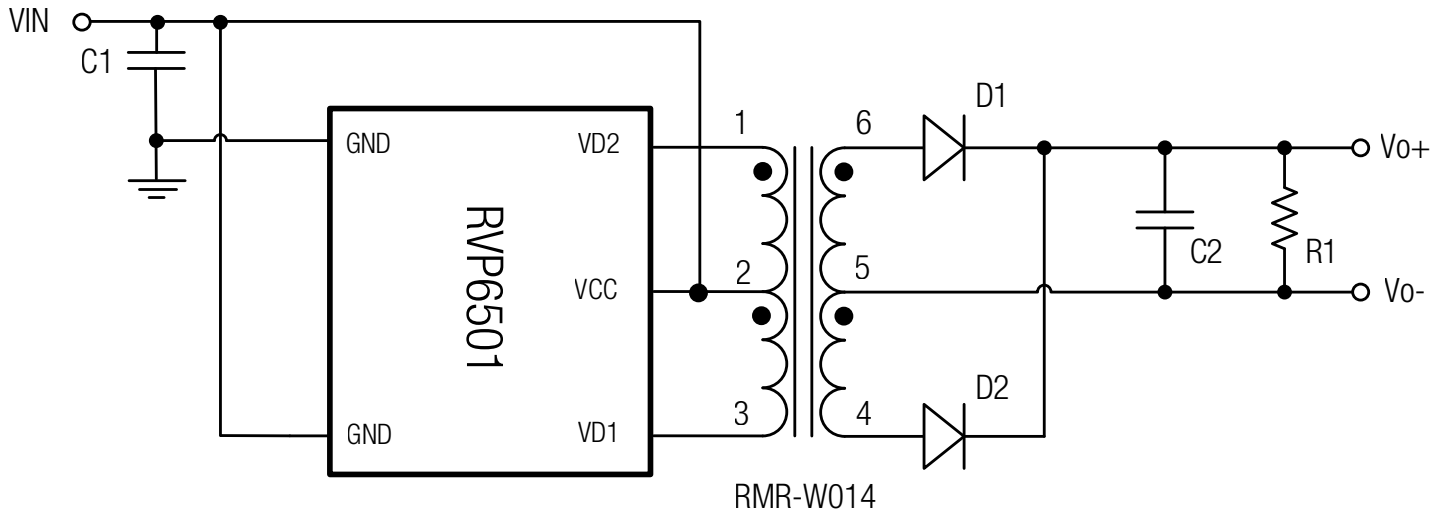
TYPICAL APPLICATION

Parameter		Value	Unit
Input voltage	V_{IN1}	3.3	VDC
	V_{IN2}	5	VDC
Output voltage	V_{OUT1}	3.3	VDC
	V_{OUT2}	5	VDC
Output current	I_{OUT1}	200	mA
	I_{OUT2}	200	mA
Switching frequency	f_{switch}	360	kHz

Input: N1/N2
Output 1: N3/N4
Table and graph show a typical application. Values may vary by application.

copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com

REFERENCE CIRCUIT DIAGRAM



Typical Curve:

Fig 1. Typical efficiency vs Output current

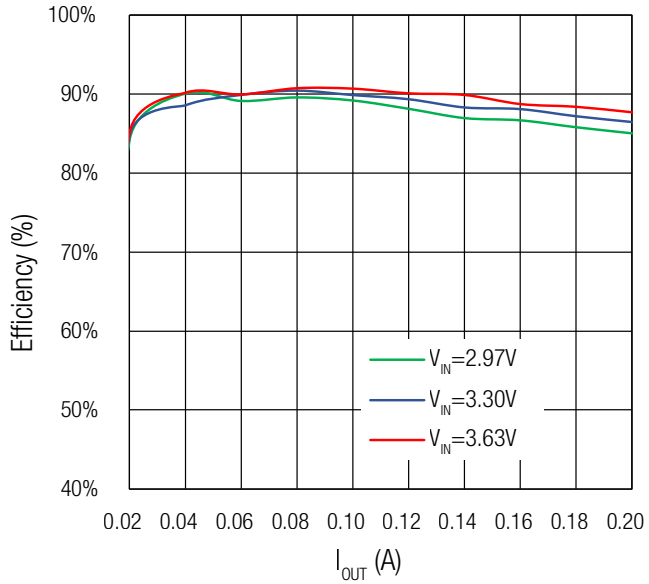


Fig 2. Typical output voltage vs Output current

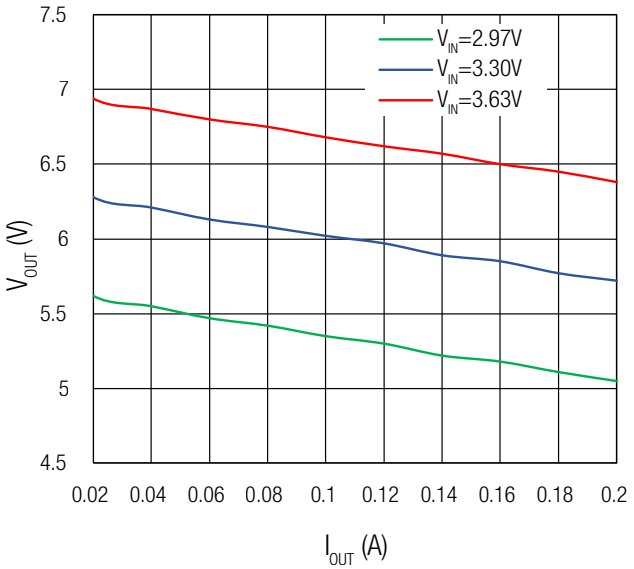


Fig 3. Typical efficiency vs Output current

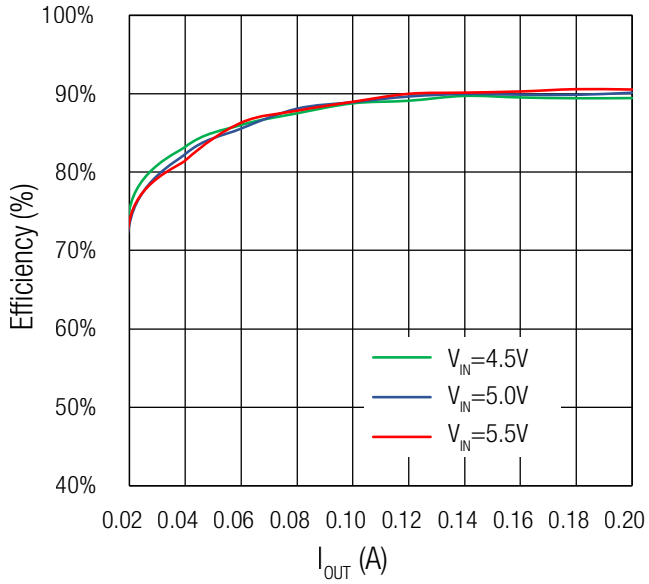
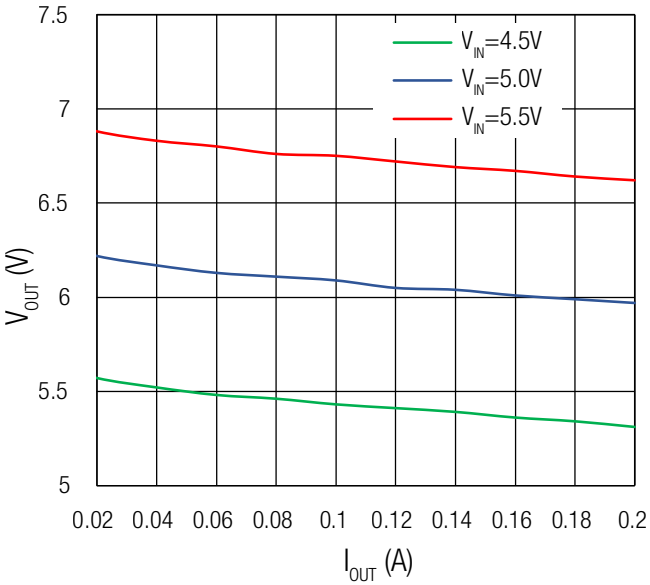


Fig 4. Typical output voltage vs Output current

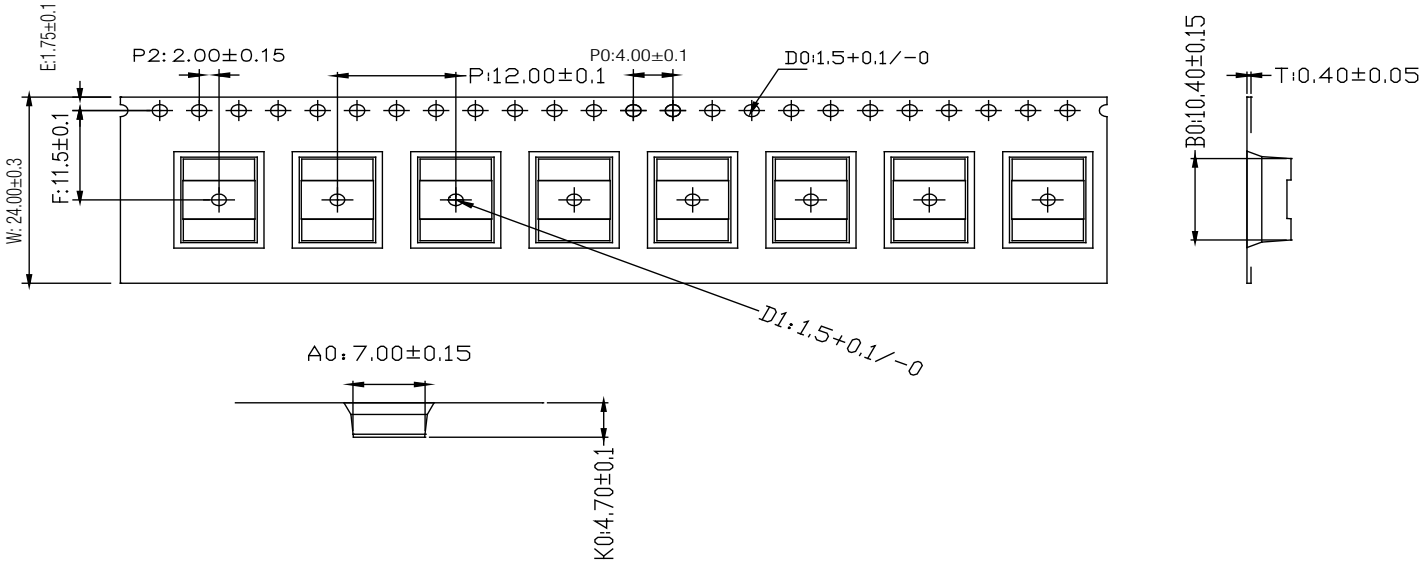


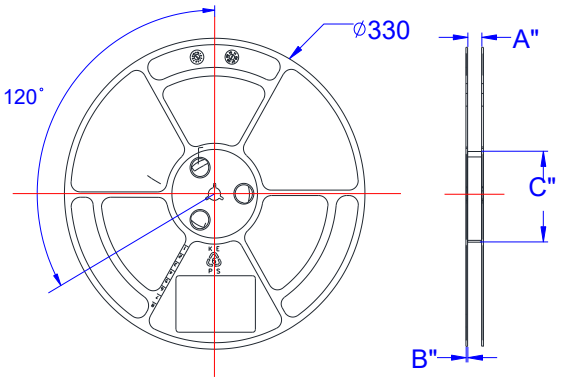
copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com

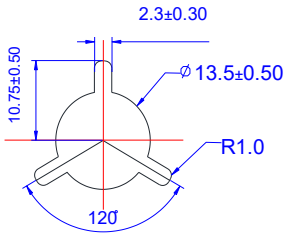
RMR-W014 ◊ Small Size Isolation Transformer

1W ◊ SMD ◊ 2.5kVAC Isolation

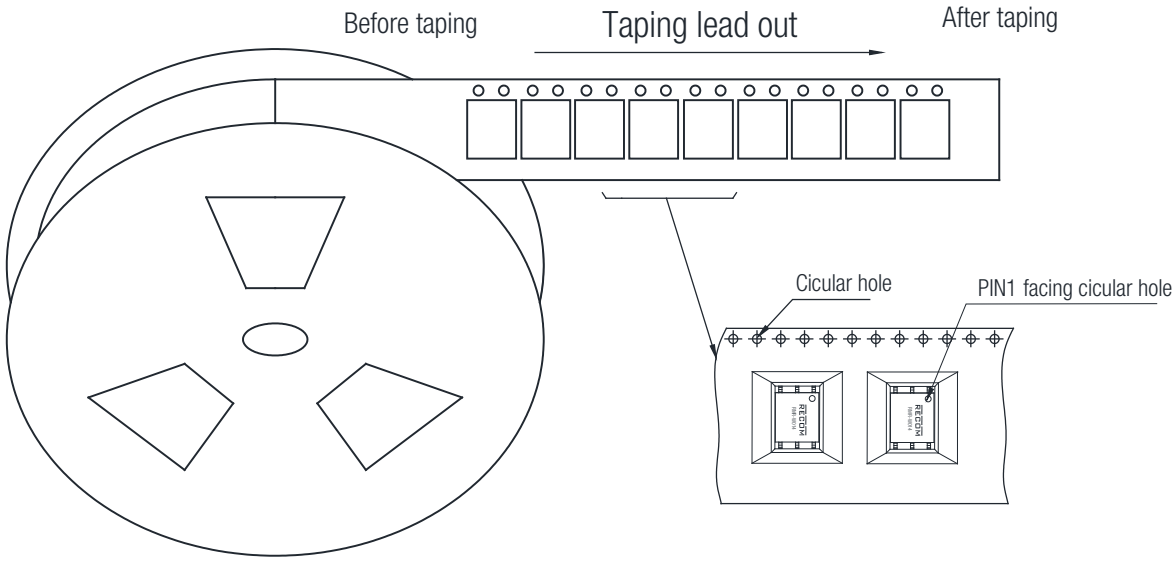
PACKAGING SPECIFICATION - TAPE & REEL [mm]													
ITRM	W	A0	B0	K0	K1	P	F	E	D0	D1	P0	P2	T
DIM	24.00	7.00	10.40	4.70	--	12.00	11.50	1.75	1.50	1.50	4.00	2.00	0.30
TOLE	+0.30 -0.30	+0.15 -0.15	+0.15 -0.15	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.10	+0.10 -0.00	+0.10 -0.00	+0.10 -0.10	+0.15 -0.15	+0.05 -0.05





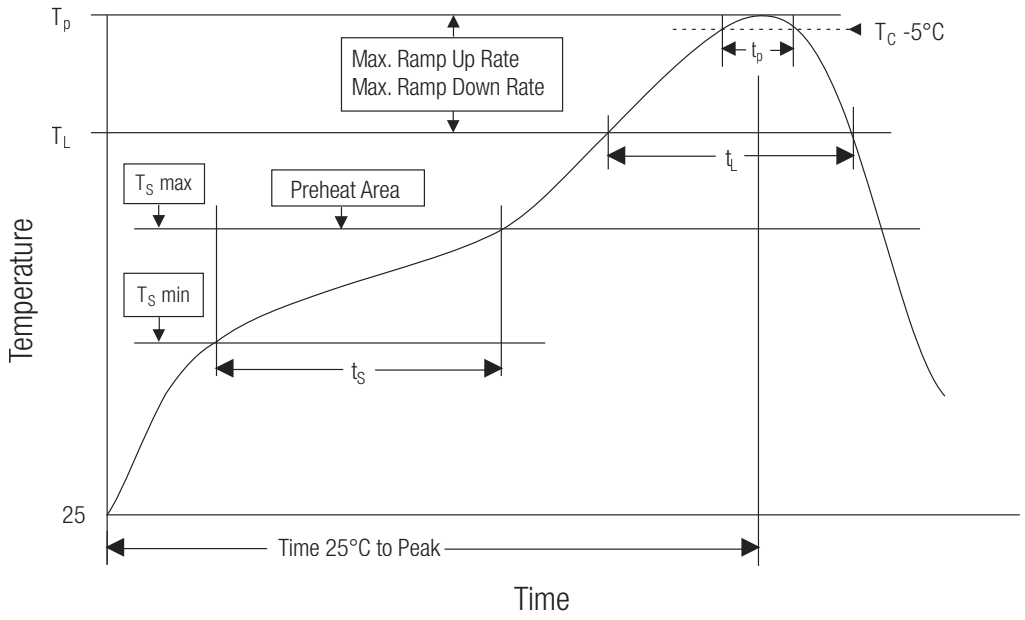


		✓			
SPEC	16	24	32	44	56
DIM A" ± 0.5	16.5	24.5	32.5	44.5	56.5
DIM B" ± 0.3	2.10	2.10	2.10	2.10	2.10
DIM C" ± 0.5	100	100	100	100	100



copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com

REFLOW SOLDERING



Profile Feature		Value
Preheat temperature Min	$T_{s\,min}$	150°C
Preheat temperature Max	$T_{s\,max}$	200°C
Preheat time t_s from $T_{s\,min}$ to $T_{s\,max}$	t_s	100 seconds
Ramp-up rate (T_L to T_P)		3°C/second max.
Liquidous temperature	T_L	217°C
Time t_L maintained above T_L	t_L	100 seconds
Peak package body temperature	T_P	$T_P \leq T_C$, see table below
Time within 5°C of actual peak temperature	t_P	30 seconds
Ramp-down rate (T_P to T_L)		6°C/second max.
Time 25°C to peak temperature		5 minutes max.
Reflow soldering temperature		Peak Temperature ≤250°C (10s)
Reflow soldering cycles		Recommended ≤ 2 Cycles

Refer to IPC/JEDEC J-STD-020F

PACKAGE CLASSIFICATION REFLOW TEMPERATURE (T_C)

Properties	Volume mm³ <350	Volume mm³ 350-2000	Volume mm³ >2000
PB-Free Assembly I Package Thickness < 1.6 mm	260°C	260°C	260°C
PB-Free Assembly I Package Thickness 1.6 mm - 2.5 mm	260°C	250°C	245°C
PB-Free Assembly I Package Thickness > 2.5 mm	250°C	245°C	245°C

Refer to IPC/JEDEC J-STD-020F

copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com

RMR-W014 ◊ Small Size Isolation Transformer

1W ◊ SMD ◊ 2.5kVAC Isolation

ORDER INFORMATION

Order Code	Marking Code*	Weight (g/pcs)	Package Type	Quantity (pcs/Reel)
RMR-W014-E55S-R	RMR-W014	0.35g	Tape & Reel	1200pcs
RMR-W014-E55S-CT	RMR-W014	0.35g	Moisture Barrier Bag	5pcs

*Marking Code

RMR-W014—— Product Code

The product information and specifications may be subject to changes even without prior written notice.The product has been designed for various applications; its suitability lies in the responsibility of each customer. The products are not authorized for use in safety-critical applications without RECOM's explicit written consent. A safety-critical application is an application where a failure may reasonably be expected to endanger or cause loss of life, inflict bodily harm or damage property. The applicant shall indemnify and hold harmless RECOM, its affiliated companies and its representatives against any damage claims in connection with the unauthorized use of RECOM products in such safety-critical applications.

copyright © RECOM Power GmbH, all rights reserved
www.recom-power.com