

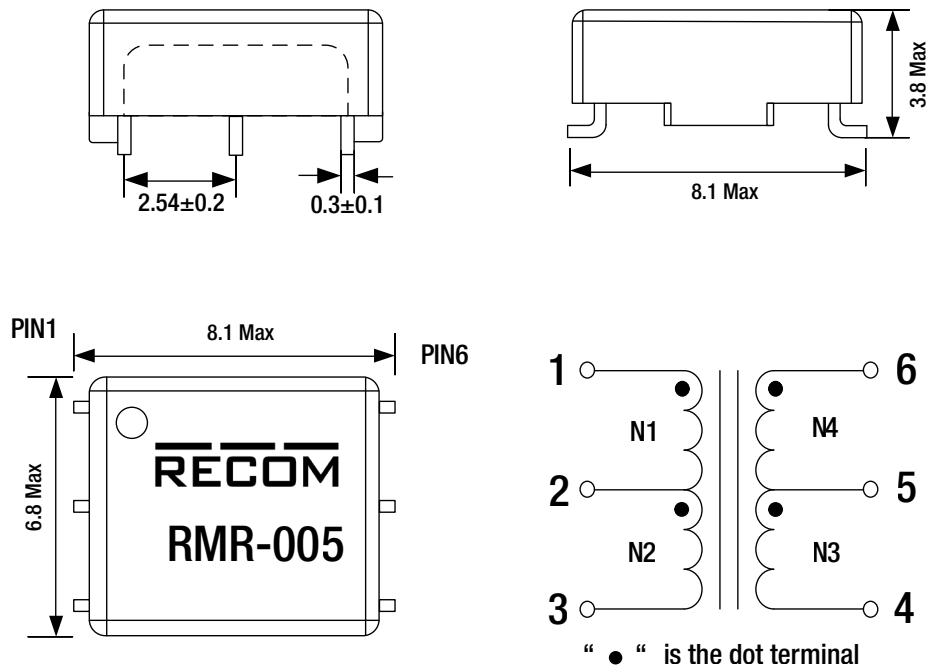
RMR-005 ⬡ Flyback Transformer

1W ⬡ SMD ⬡ 1.5kVDC Isolation

FEATURES

- Small-sized isolation transformer
- SMD surface mount installation
- Isolation voltage: 1500VDC/1minute
- Operating temperature: -40~125°C
- Maximum product dimensions: 8.1mm × 6.8mm × 3.8mm

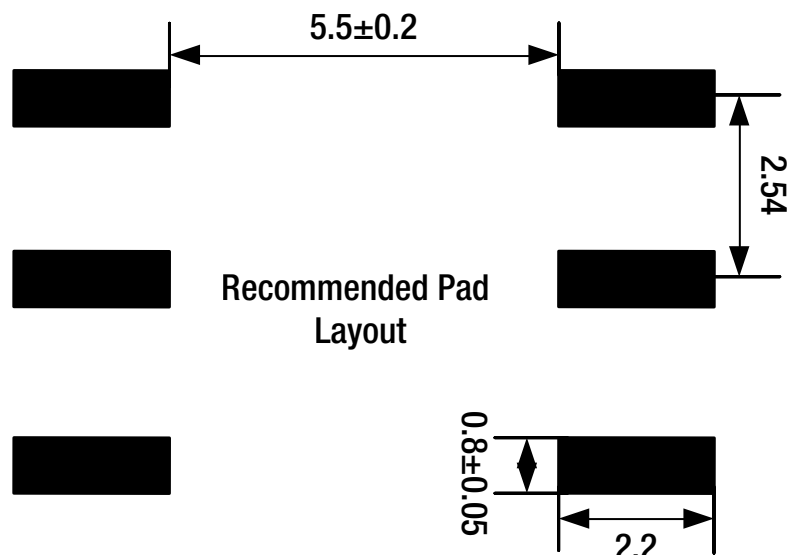
DIMENSIONS AND SCHEMATIC DIAGRAM [mm]



PRODUCT MARKING

| | |
|---------|---------------|
| Pin1 | ○ |
| Marking | Company Logo |
| | Product Model |

RECOMMENDED LAND PATTERN [mm]



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

| Properties | | Test Conditions | Value | Unit |
|--------------------------|------------------|-------------------------------------------|-------------|-----------|
| Inductance | L | N1/100kHz/0.1V | 169 min. | μ H |
| Turns Ratio | n | N1:N2:N3:N4 | 1:1:0.9:0.9 | |
| DC Resistance 1 | R _{DC1} | N1:N2/25°C | 0.34 max. | Ω |
| DC Resistance 2 | R _{DC2} | N3:N4 /25°C | 0.36 max. | Ω |
| Voltage- μ Second | \int_{Udt} | N1/ bipolar waveform | 12 | V μ s |
| Interwinding Capacitance | C _{ww} | PIN1-6/100kHz/ 0.1V/25°C | 28 max. | pF |
| Leakage Inductance | L _S | N1/100kHz/0.1V, all other terminals short | 0.5 max. | μ H |
| Isolation Test Voltage | V _T | N1,2: N3,4/60s/1mA | 1500 | VDC |

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 _{IN} | 12 | VDC |
| Output Voltage 1 | V _{OUT1} | 5 | VDC |
| Output Current 1 | I _{OUT1} | 200 | mA |
| Switching Frequency | f _{switch} | 350 | kHz |

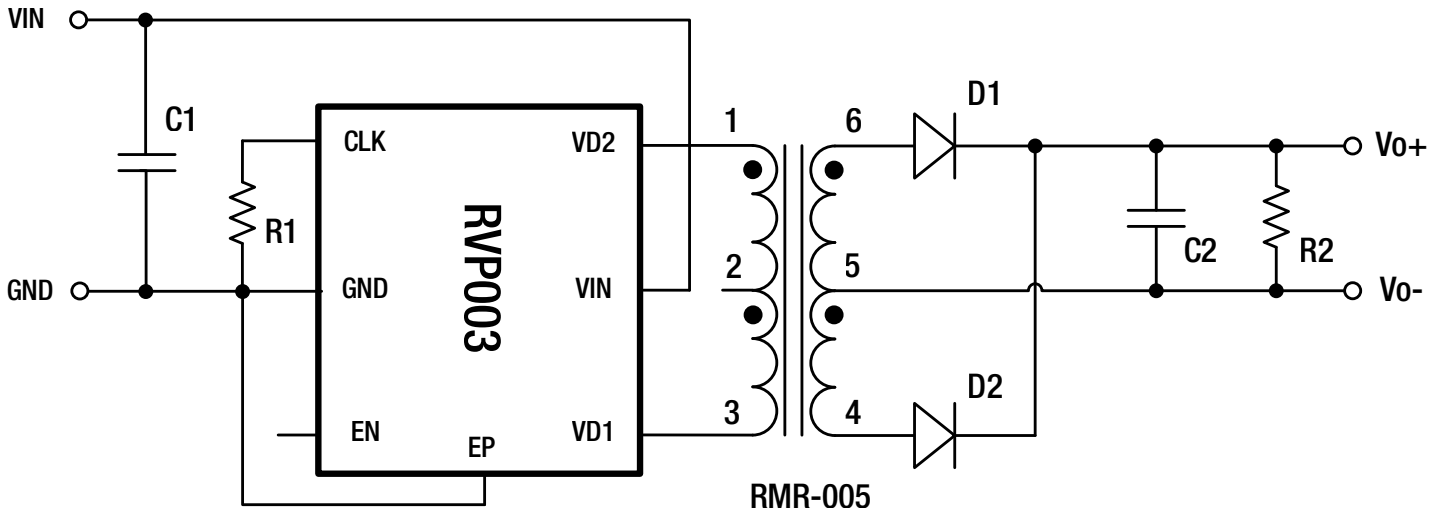
Input: N1/N2
Output 1: N3/N4

Table and graph show a typical application. Values may vary by application.

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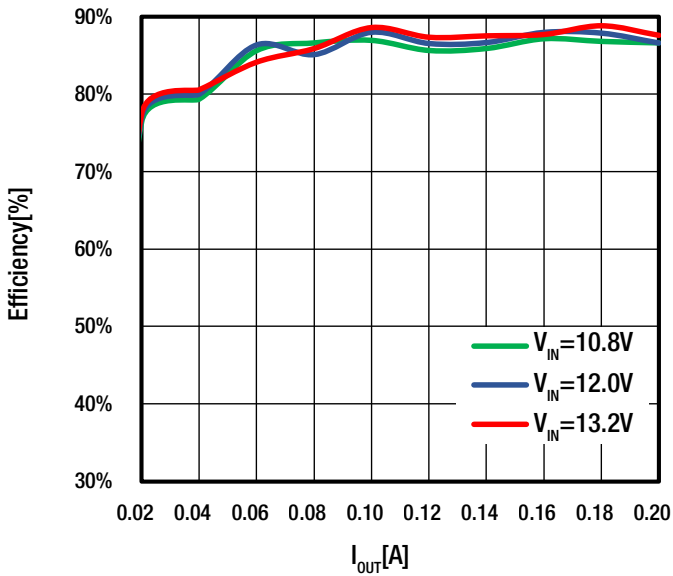
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REFERENCE CIRCUIT DIAGRAM

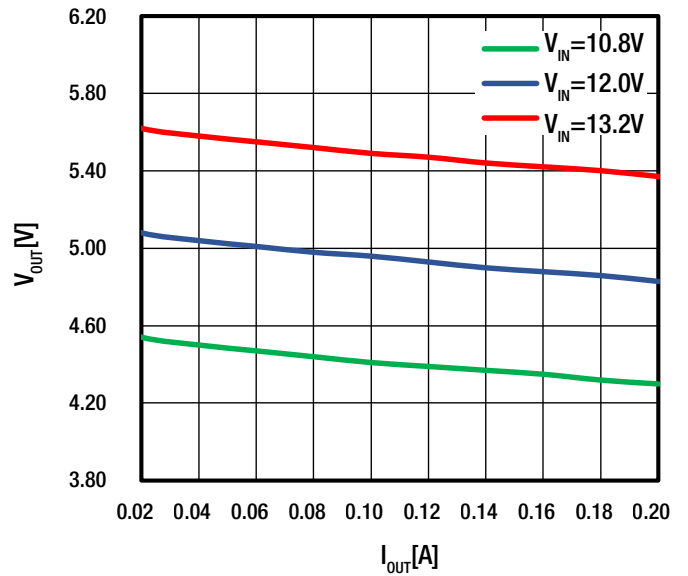


Typical Curve:

Typical Efficiency vs. Output Current



Typical Output Voltage vs. Output Current

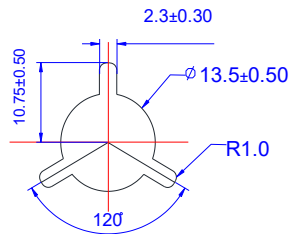
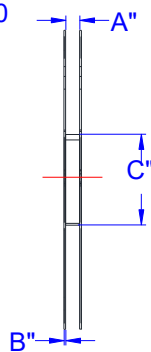
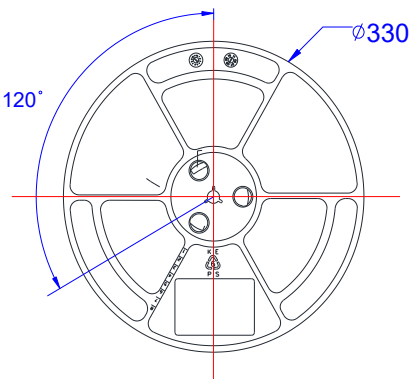
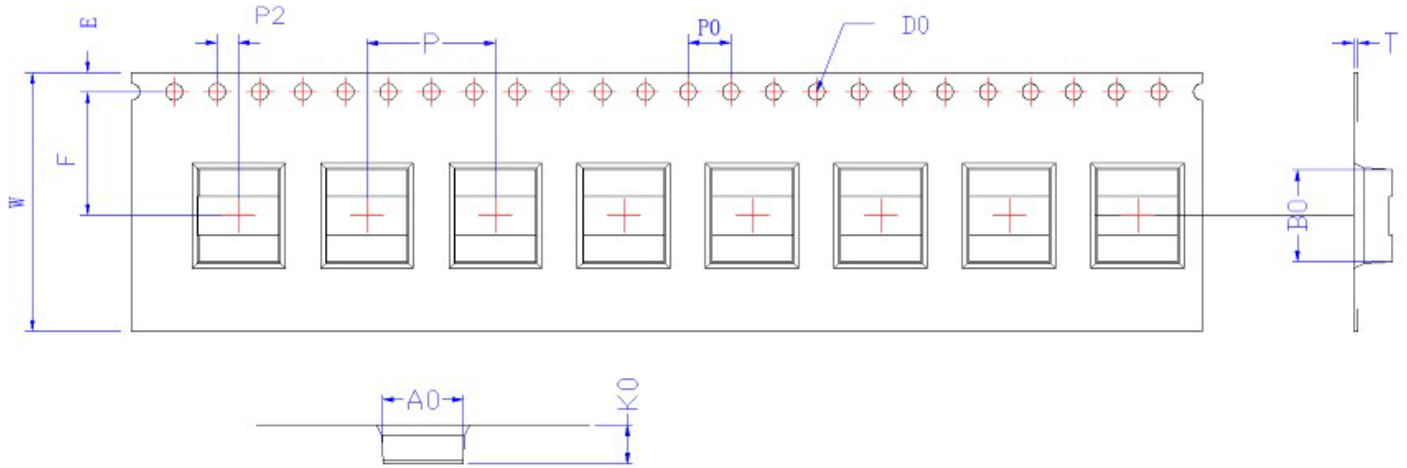


RMR-005 ◊ Flyback Transformer

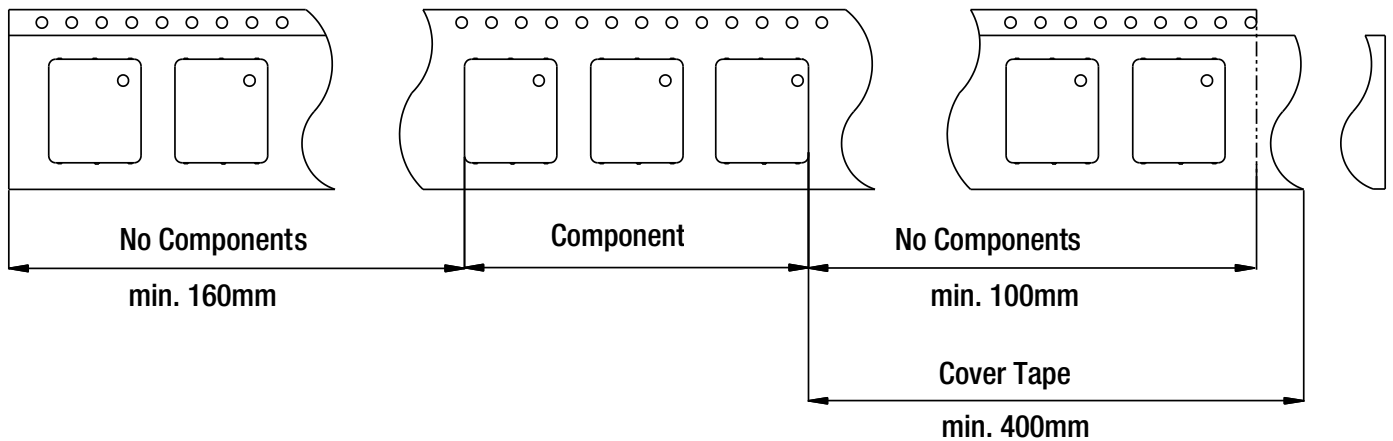
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PACKAGING SPECIFICATION - TAPE & REEL [mm]

| ITRM | W | A0 | B0 | K0 | K1 | P | F | E | D0 | D1 | P0 | P2 | T |
|------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| DIM | 24.00 | 7.10 | 8.20 | 3.75 | -- | 12.00 | 11.50 | 1.75 | 1.50 | -- | 4.00 | 2.00 | 0.40 |
| 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 -0.10 | +0.10 -0.00 | +0.10 -0.10 | +0.15 -0.15 | +0.05 -0.05 |



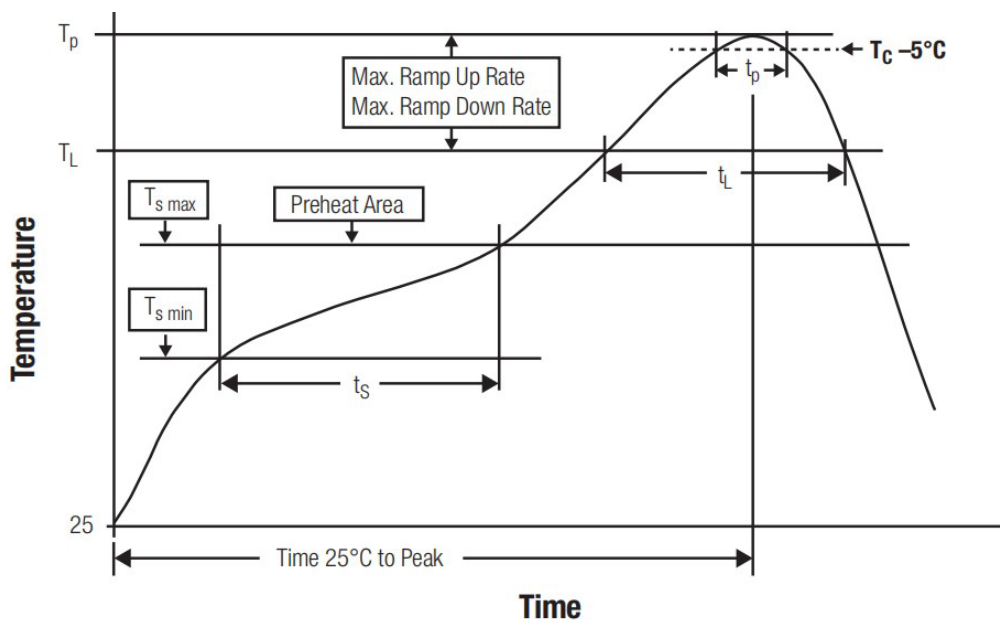
| | | | | | |
|--------------|------|------|------|------|------|
| | | ✓ | | | |
| SPEC | 16 | 24 | 32 | 44 | 56 |
| DIM A" ± 0.5 | 16.5 | 24.5 | 32.5 | 44.5 | 56.5 |
| DIM B" ± 0.3 | 2.10 | 2.10 | 2.10 | 2.10 | 2.10 |
| DIM C" ± 0.5 | 100 | 100 | 100 | 100 | 100 |



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REFLOW SOLDERING



| Profile Feature | | Value |
|--------------------------------------------------------------------|---------------------|-------------------------------------------------|
| Preheat Temperature Min | $T_{s \text{ min}}$ | 150°C |
| Preheat Temperature Max | $T_{s \text{ max}}$ | 200°C |
| Preheat Time t_s from $T_{s \text{ min}}$ to $T_{s \text{ max}}$ | 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 $\leq 250^\circ\text{C}$ (10s) |
| Reflow Soldering Cycles | | Recommended ≤ 2 Cycles |

Refer to IPC/JEDEC J-STD-020F

PACKAGE CLASSIFICATION REFLOW TEMPERATURE (T_c)

| Properties | Volume mm ³ <350 | Volume mm ³ 350-2000 | Volume mm ³ >2000 |
|------------------------------------------------------|-----------------------------|---------------------------------|------------------------------|
| PB-Free Assembly Package Thickness < 1.6 mm | 260°C | 260°C | 260°C |
| PB-Free Assembly Package Thickness 1.6 mm - 2.5 mm | 260°C | 250°C | 245°C |
| PB-Free Assembly Package Thickness > 2.5 mm | 250°C | 245°C | 245°C |

Refer to IPC/JEDEC J-STD-020F

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ORDER INFORMATION

| Order Code | Marking Code* | Weight (g/pcs) | Package Type | Quantity (pcs/Reel) |
|----------------|---------------|----------------|--------------|---------------------|
| RMR-005-AA5S-R | RMR-005 | 0.2g | Tape & Reel | 1500pcs |

*Marking Code

RMR-005—— 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.