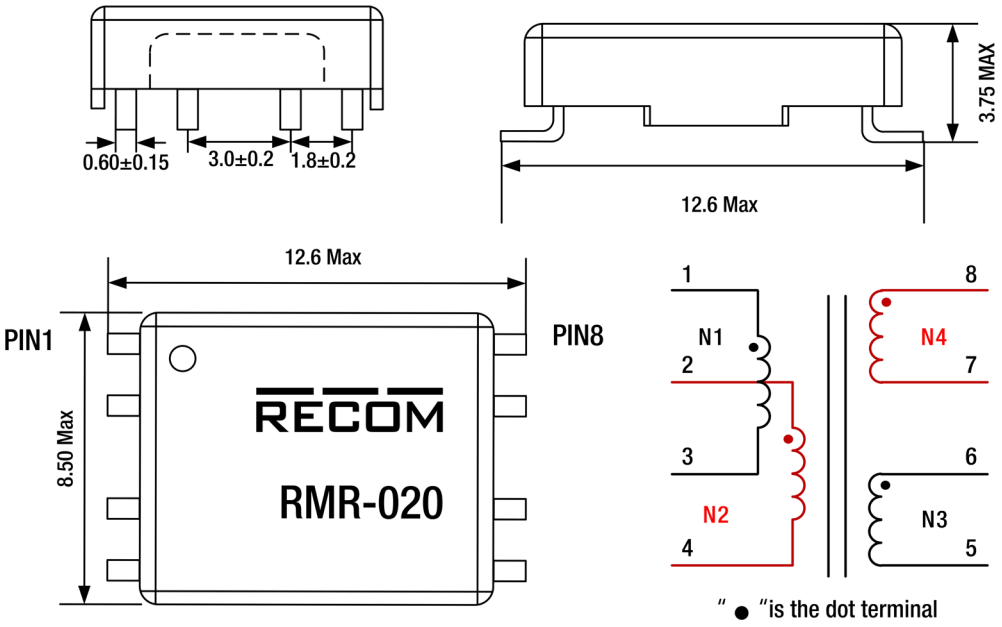
RMR-020

Small Size Isolation Transformer

PRODUCT FEATURES

- Small-Sized Isolation Transformer
- Isolation Voltage: 3000VDC/1minute
- SMD (Surface Mount Device) Mounting
- Reflow Soldering Temperature:
  Peak Temperature ≤250°C (10s)
- Recommended Reflow Soldering Times:
  No More Than 2 Times
- Product Volume:
  12.6mm x 8.5mm x 3.75mm (MAX)

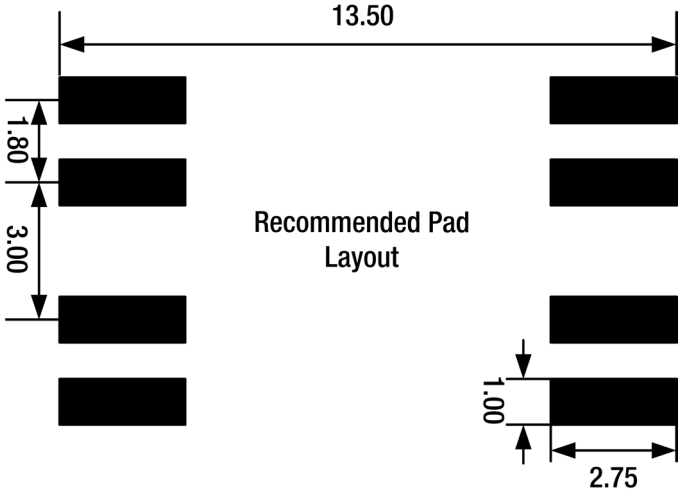
DIMENSIONS AND SCHEMATIC DIAGRAM [mm]



PRODUCT MARKING

Pin1	○
Marking	Company Logo
	Product Model

RECOMMENDED LAND PATTERN [mm]



ELECTRICAL PROPERTIES

Properties		Test Conditions	Value	Unit	Tol.
Inductance	L	N1/100kHz/0.1V	138.5	µH	min.
Turns Ratio	n	N1:N2:N3:N4	1:1:2.53:2.53		
DC Resistance 1	R_{DC1}	N1:N2/25°C	0.30	Ω	Max
DC Resistance 2	R_{DC2}	N3:N4 /25°C	0.61	Ω	Max
Voltage-µSecond	∫ Udt	N1/ bipolar waveform	17.75	Vµs	
Interwinding Capacitance	C_{WW}	PIN1-8/100kHz/ 0.1V/25°C	25	pF	Max
Leakage Inductance	L_S	N1/100kHz/0.1V, all other terminals short	0.5	uH	Max
Insulation Test Voltage	V_T	N1,2: N3,4/60s/1mA	3000	V(DC)	1min.

GENERAL INFORMATION

Operating Temperature	-40~125°C
Storage Conditions (in original packaging)	<40°C/<75%RH
Moisture Sensitivity Level (MSL)	1
Electrical Specifications @ 25°C unless otherwise noted	

MATERIAL CERTIFICATION

ITEM		UL NO
1	CASE	E150608
2	WIRE	E253843
3	VARNISH	E314793

CERTIFICATION

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

TYPICAL APPLICATION

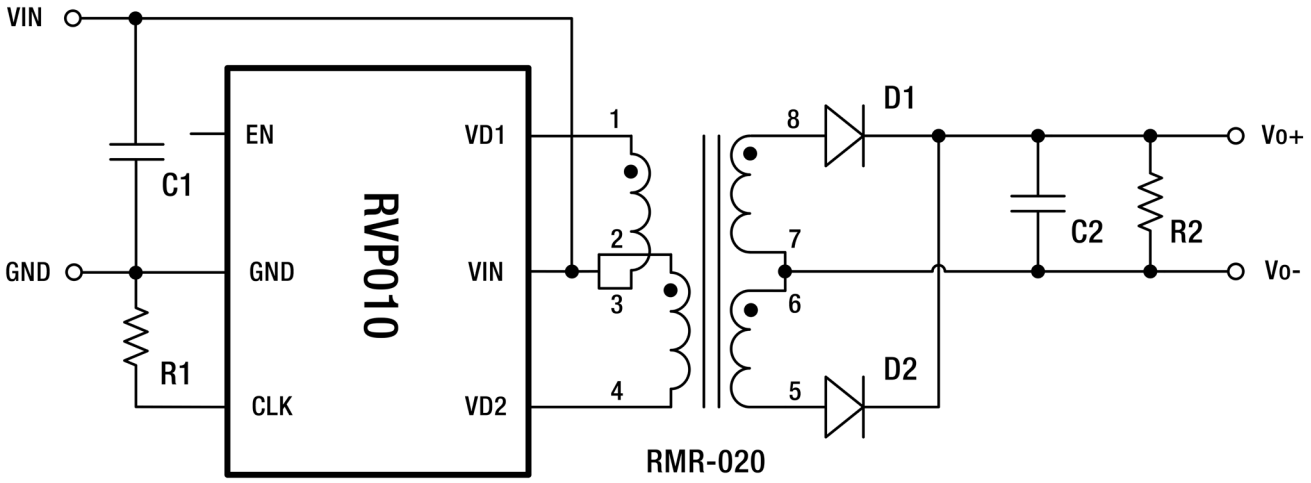
Input Voltage	V_{IN}	5	V(DC)
Output Voltage 1	V_{OUT1}	12	V(DC)
Output Current 1	I_{OUT1}	83	mA
Switching Frequency	f_{switch}	217	kHz

Input : N1/N2

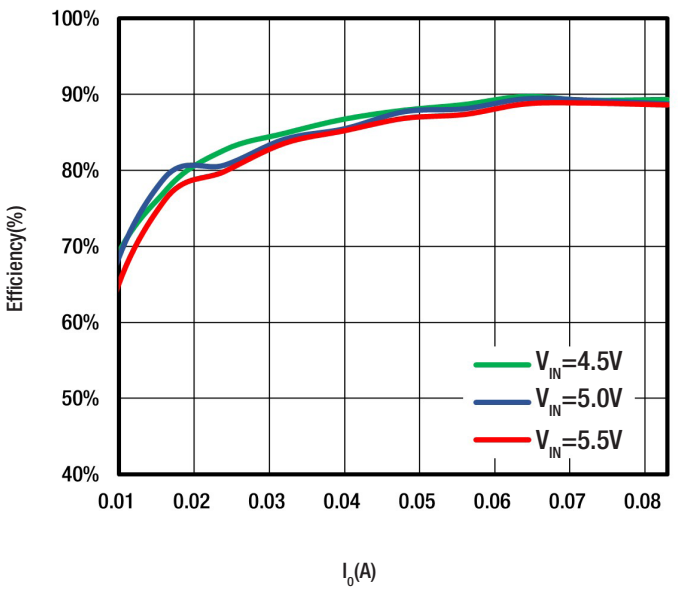
Output 1: N3 / N4

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

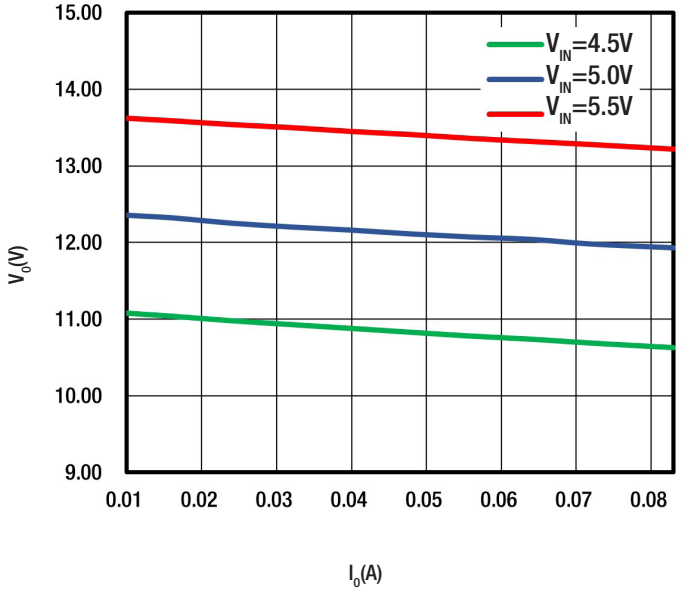
REFERENCE CIRCUIT DIAGRAM



Typical Curve:



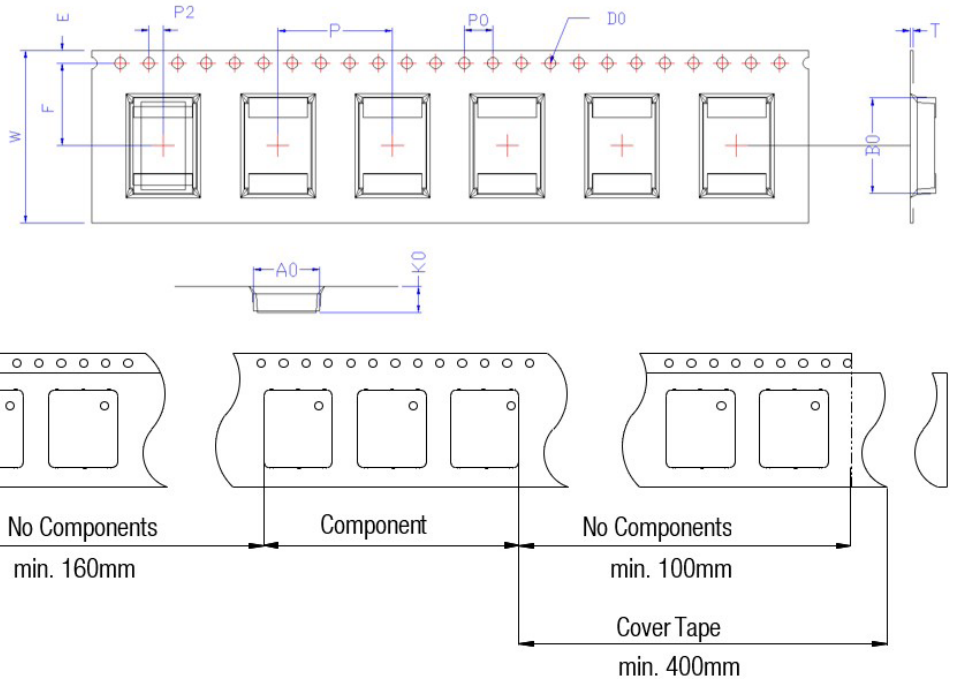
Typical Efficiency vs. Output Current Curve



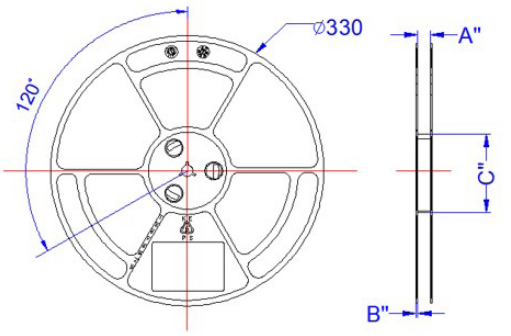
Typical Output Voltage vs. Output Current Curve

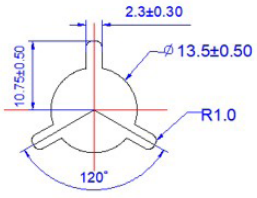
PACKAGING SPECIFICATION - TAPE [mm]

ITRM	W	A0	B0	K0	K1	P	F	E	D0	D1	P0	P2	T
DIM	24.00	8.90	12.90	3.70	--	16.00	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 -0.00	+0.10 -0.00	+0.10 -0.10	+0.15 -0.15	+0.05 -0.05

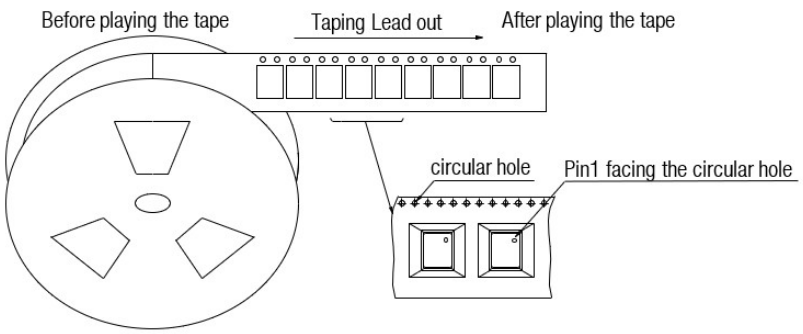


Reel [mm]

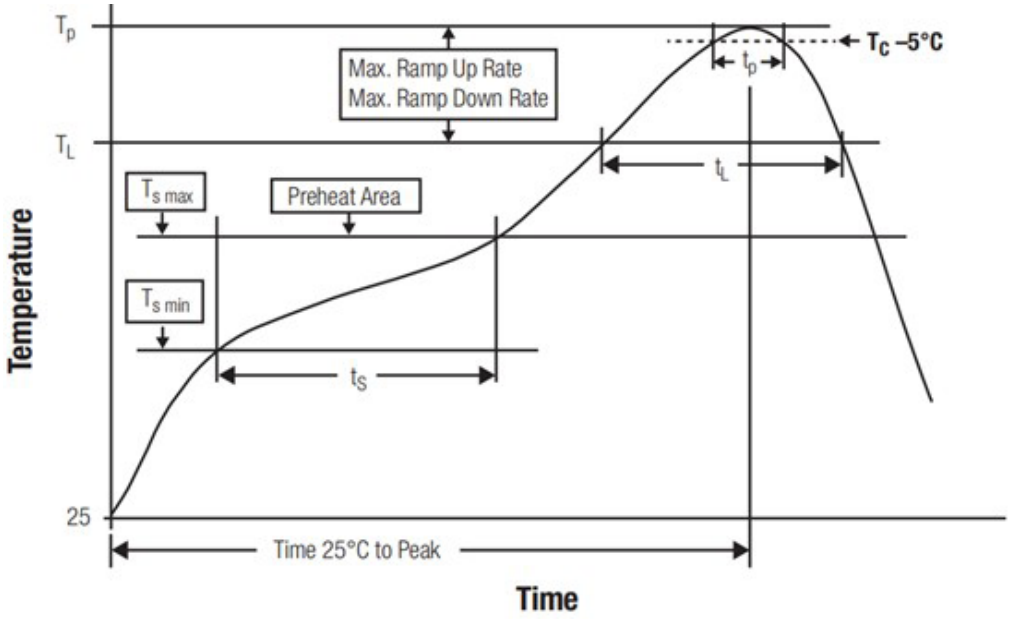




		✓			
SPEC	16	24	32	44	56
DIM A" ± 0.5	16.5	24.5	32.5	44.5	56.5
DIM B" ± 0.3	2.10	2.10	2.10	2.10	2.10
DIM C" ± 0.5	100	100	100	100	100



CLASSIFICATION REFLOW PROFILE FOR SMT COMPONENTS



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.

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

ORDER INFORMATION

Order Code	Marking Code*	Weight (g/pcs)	Package Type	Quantity (pcs/Reel)
RMR-020-C5AS-R	RMR-020	0.51g	Tape & Reel	1000pcs

*Marking Code
RMR020—— Product Code