

1. TYPE : RELAY (DPDT, Two coil latching type, P/C Board type, Plastic sealed type)

2. MODEL NO. : RSBL-\_\_\_\_\_ · RSBL-12-S

3. DRAWING NO. : RSB-LN-ED



4. INITIAL CHARACTERISTICS

4.1 Set & reset voltage, coil resistance & current and max. continuous voltage  
STANDARD TYPE

MODEL NUMBER	NOMINAL COIL VOLTAGE DC (V)	MAX. SET & RESET VOLTAGE INITIAL DC (V) (20°C)	NOMINAL COIL 1 & 2 RESISTANCE & COIL CURRENT ± 10% (20°C)	MAX. CONTINUOUS VOLTAGE DC (V) (20°C)
RSBL-3	3	2.1	25.0Ω, 120mA	4.6
RSBL-5	5	3.5	69.4Ω, 72.0mA	7.8
RSBL-6	6	4.2	100Ω, 60.0mA	9.3
RSBL-9	9	6.3	225Ω, 40.0mA	14.0
RSBL-12	12	8.4	400Ω, 30.0mA	18.7
RSBL-24	24	16.8	1600Ω, 15.0mA	37.4
RSBL-48	48	33.6	6400Ω, 7.5mA	74.8

HIGH SENSITIVE TYPE

MODEL NUMBER	NOMINAL COIL VOLTAGE DC (V)	MAX. SET & RESET VOLTAGE INITIAL DC (V) (20°C)	NOMINAL COIL 1 & 2 RESISTANCE & COIL CURRENT ± 10% (20°C)	MAX. CONTINUOUS VOLTAGE DC (V) (20°C)
RSBL-3-S	3	2.1	50.0Ω, 60.0mA	5.9
RSBL-5-S	5	3.5	139Ω, 36.0mA	9.8
RSBL-6-S	6	4.2	200Ω, 30.0mA	11.8
RSBL-9-S	9	6.3	450Ω, 20.0mA	17.7
RSBL-12-S	12	8.4	800Ω, 15.0mA	23.6
RSBL-24-S	24	16.8	3200Ω, 7.5mA	47.2
RSBL-48-S	48	33.6	12800Ω, 3.8mA	94.4

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APPROVED BY *M. Inada*

CHECKED BY *R. Akahira*

DATE 1993.4.6

## 4.2 Rated dissipation

Standard type : approx. 360 mW  
 High sensitive type : approx. 180 mW

## 5. CONTACT

5.1 Contact arrangement : DPDT ( 2 form C ), bifurcated  
 5.2 Contact material : AgNi ( Au Clad )  
 5.3 Contact rating (resistive Load)  
 Max. switching voltage : 220 VDC, 250 VAC  
 Max. switching current : 2 AMP  
 Max. switching power : 60 W (DC), 125 VA (AC)  
 Max. carrying current : 2 AMP  
 Rated contact load : 2.0A 30VDC, 1.0A 125VAC  
 5.4 Contact resistance : less than 50 milliohm initially

## 6. LIFE EXPECTANCY (at 20°C)

6.1 Mechanical life : Min. 100 million operations (at 600cpm)  
 6.2 Electrical life : Min. 300,000 operations {2.0A 30VDC, 1.0A 125VAC(\*)}  
 Min. 1,000,000 operations {1.0A 30VDC, 0.5A 125VAC(\*)}  
 (at 20cpm)

## 7. SET &amp; RESET TIME

Set time : Max. 5 millisech  
 Reset time : Max. 5 millisech



## 8. TEMPERATURE CHARACTERISTICS

## 8.1 Coil temperature rise

Standard type : Less than 40 deg C (at nominal coil voltage)  
 High sensitive type : Less than 30 deg C (at nominal coil voltage)

8.2 Operate ambient temperature : - 40 deg C to + 70 deg C

8.3 Storage ambient temperature : - 40 deg C to + 80 deg C

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9. INSULATION RESISTANCE : more than 100M $\Omega$  initially (@500VDC)

10. DIELECTRIC STRENGTH

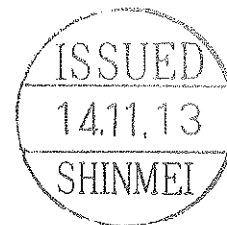
Coil to contacts (deenergized) : 1500 Vrms (1 minute)  
Between open contacts (deenergized & energized) : 1000 Vrms (1 minute)

11. ENVIRONMENTAL REQUIREMENT

11.1 Ambient humidity : Max. 85 % R H  
Ambient pressure : 1013 hPa(mb)  $\pm$  20 %  
11.2 Vibration (False operation) : 10 ~ 55 Hz at double amplitude of 1.5mm  
11.3 Shock  
Mechanical damage : 980m/s<sup>2</sup> (100 G)  
False operation : 392m/s<sup>2</sup> (40 G)

12. SOLDERING

Max. preheating temperature : 100 deg C  
Max. preheating time : 1 minute  
Max. solder temperature : 270 deg C  
Max. soldering time : 5 sec



13. UL RATINGS

File No. : E128155 (UL/C-UL)  
Contact rating : 2.0A 30VDC Resistive  
1.0A 120VAC Resistive  
Coil voltage : 3 to 48VDC

14. BABT Certification

Certificate No. : NC/012363  
Standard : EN60950-1:2006+A11:2009+A1:2010



(\*) These AC ratings are under random phase-control.  
In driving AC load, life expectancy so greatly depends on the phase at turning on or turning off that user should check selected relays with real loads.

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*K. Kaneko*

APPROVED BY

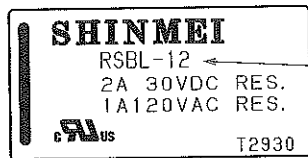
*M. Hayashi*

CHECKED BY

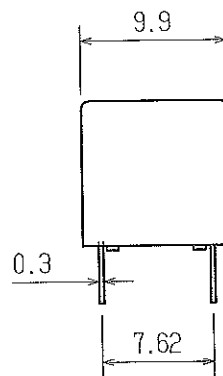
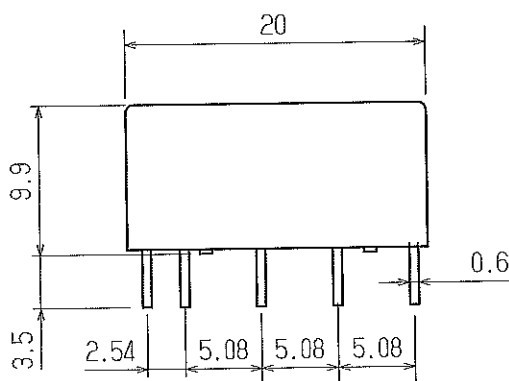
*R. Hidaka*

DATE 1993. 4. 6

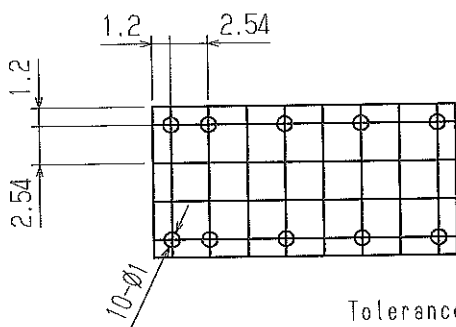
Tolerance: ±0.3



These characters change according to rated coil voltage.

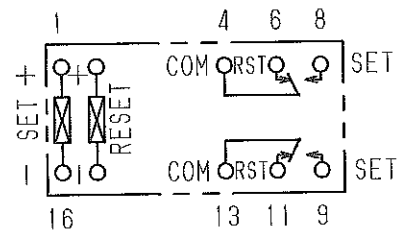


Overall dimensions



Tolerance: ±0.1

PC board pattern  
(bottom view)



WIRING DIAGRAM

(bottom view)

Drawing Name:		Drawing No. RSB-LN-ED		
Drawn: K. Kaneko	Approved: N. Nagamoto	Scale: 2/1	Unit: mm	Date: 1993.4. 6
Designed: K. Kaneko		SHINMEI ELECTRIC CO., LTD.		
Checked: R. Hidano				