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8. ELECTRIC CHARACTERISTICS

- 8 - 1. Initial insulated resistance ; Min. 100Mohm
- 8 - 2. Initial Breakdown voltage
  - 1. Between contacts ; 500V AC 1min. (Detection current : 10mA)
  - 2. Between contacts and coil ; 500V AC 1min. (Detection current : 10mA)
- 8 - 3. Operate time (Initial) ; Max. 10 ms (at rated voltage, except bouncing time)
- 8 - 4. Release time (Initial) ; Max. 10 ms (at rated voltage, except bouncing time)

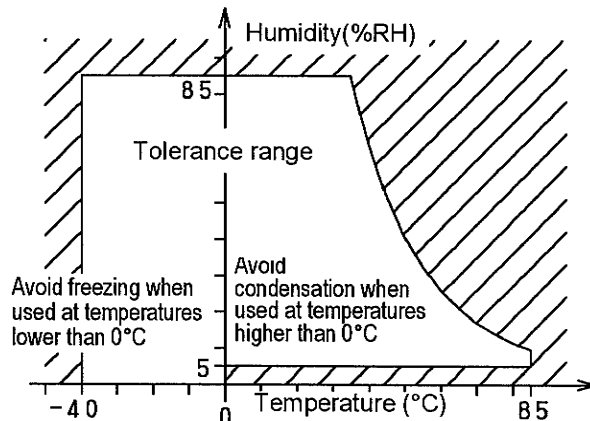
9. FUNCTIONAL CHARACTERISTICS

- 9 - 1. Shock resistance ; Functional : above 100m/s<sup>2</sup>  
(half-sine curve pulse : 11ms)  
(detection time : 10μs)  
; Destructive : above 1000m/s<sup>2</sup>  
(half-sine curve pulse : 6ms)
- 9 - 2. Vibration resistance ; Functional : No abnormality after testing.  
44.1m/s<sup>2</sup> (constant), 10Hz to 100Hz.  
; Destructive : No abnormality after testing.  
44.1m/s<sup>2</sup> (constant), 10Hz to 500Hz.

10. MASS. ; Approx. 4g

11. OPERATION, TRANSPORT STORAGE

- 11 - 1. Following is the conditions of ambient temperature, humidity and air pressure in case of operation, transport and storage.
- 1. Ambient temperature ; - 40°C to 85°C
  - 2. Humidity ; 5% RH to 85% RH(not freezing and condensing)
  - 3. Air pressure ; 86kPa to 106kPa



- Condensing ;  
Condensing occurs when the relay is exposed to sudden temperature change in a high-temperature, high-humidity atmosphere. This may cause some troubles like insulation failure.

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<ul style="list-style-type: none"> <li>• Freezing ; At temperature below 0°C, moisture may freeze. This may lead to some trouble like sticking of the moving portion of the relay or delayed operation.</li> <li>• Low-temperature, low-humidity atmosphere ; If the relay is exposed to a low-temperature, low-humidity atmosphere for a long time, its plastic parts may become brittle and fragile.</li> </ul> <p>11 - 2. Operating voltage range ; 20VDC to 32VDC</p> <p>12. This relay shall not be cleaned by the ultrasonic cleaning for it affects the relay characteristics. Please use an alcohol - or water - based cleaning solvent.</p> <p>13. Automatic soldering according to the following conditions.</p> <ul style="list-style-type: none"> <li>1.Preheat : Max. 100°CMax. 120s</li> <li>2.Soldering : Max. 260°CMax. 5s</li> </ul> <p>14.CAUTION FOR USE</p> <p>14 - 1. Regarding cautions for use and explanation of technical terms, please refer to our general catalogue</p> <p>14 - 2. For secure operations, the voltage applied to coil should be nominal voltage. In addition, please note that pick-up and drop-out voltage will be changed according to the ambient temperature and using condition.</p> <p>14 - 3. Lifetime is dependent on the coil driving circuit, load type, operating frequency, on/off phase and ambient conditions. Check lifetime under the actual condition. The following load conditions may reduce lifetime: When switching loads that cause contact arcing at high frequencies, the resulting arc energy may synthesize HNO<sub>3</sub> which causes contact corrosion. To prevent this, take one or more of the following actions:</p> <ul style="list-style-type: none"> <li>1.Use a spark suppressor across the contacts</li> <li>2.Reduce the on/off frequency</li> <li>3.Reduce the ambient humidity</li> </ul> <p>14 - 4. If the relay is used while exceeding the coil rating, contact rating or cycle lifetime, this may result in the risk of overheating, smoke or combustion.</p> <p>14 - 5. If the relay is dropped onto a hard surface, it should not be used again. If it is used, be sure to check electrical/mechanical characteristics and the external conditions beforehand.</p> <p>14 - 6. Please contact your nearest sales office when AC load gets applied to this relay. Careful handling is required for switching AC load with this relay.</p> <p>14 - 7. Take care to avoid cross connections as they may cause malfunctions, overheating or combustion.</p>			
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OBIHIRO MATSUSHITA ELECTRIC WORKS, LTD.			

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#### 15.WARRANTY

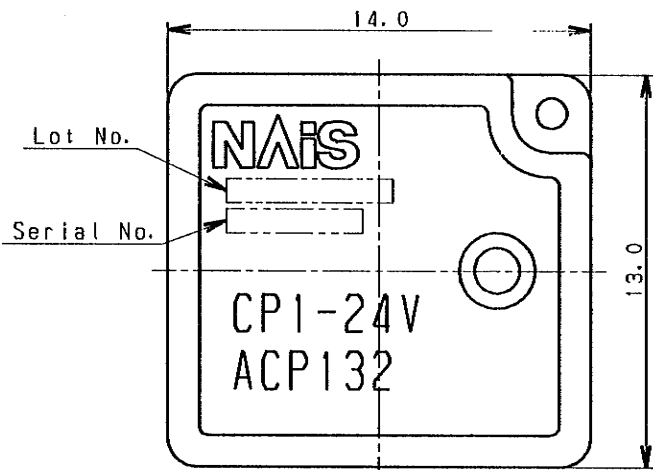
OBIHIRO MATSUSHITA ELECTRIC WORKS,LTD.(OMEW) will do our utmost to keep our product to be free from defects. However:

- (1) To avoid uses of the product not in accordance with its specifications, OMEW ask the purchaser to present the purchaser's specification the final destination, application of the final product and the method of installation of the product.
- (2) If the purchaser believes that the possibility exists that the installation or anticipated use of the product may cause personal injury, death or property damage, OMEW advises the purchaser to be broad-minded about conditions and performance requirements listed on this specification and to take precautions such as applying a double-circuit.
- (3) The warranty period of this product is one year from the data of arrival of the product at the location of the purchaser, and is limited to the listed Items on this specification. If upon arrival any defect due to OMEW's failure to perform becomes apparent, OMEW will replace, exchange or repair the defective product on the site where it was received.

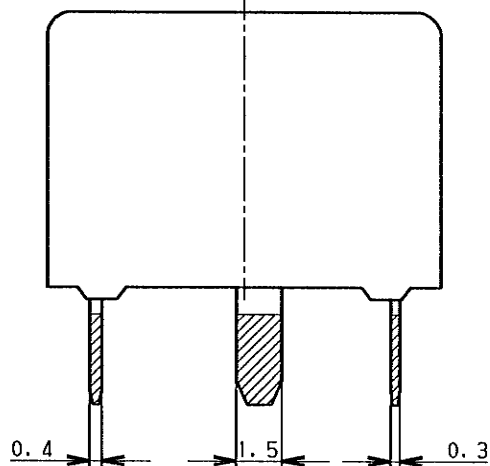
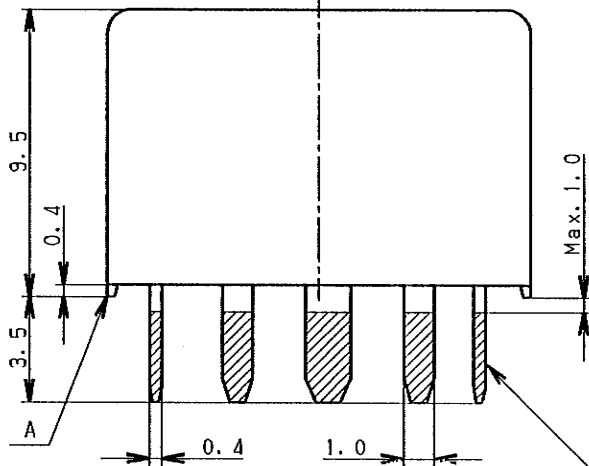
The following are excluded from the warranty conditions:

- ①. Damage caused by relay problems or failure.
- ②. Relay exposure after delivery to conditions not in this specification during handling, storage or transport.
- ③. An unforeseen situation arises which was unable to be predicted by the technology level at the time of shipment.
- ④. A natural or man-made disaster which is outside of OMEW's control occurs such as earthquake, flood, fire or social strife.

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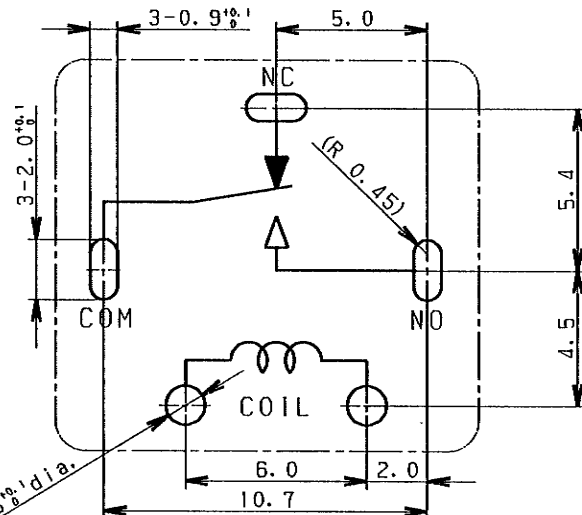
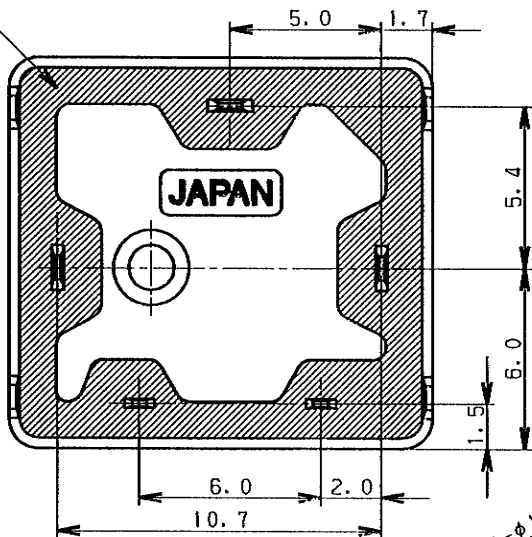


TOLERANCES:  
 max. 1mm :  $\pm 0.1$ mm  
 min. 1mm less than 3mm :  $\pm 0.2$ mm  
 min. 3mm :  $\pm 0.3$ mm



Sealed by epoxy resin

Soldering depth



Schematic and PC board pattern (BOTTOM VIEW)  
 (Tolerance:  $\pm 0.1$ )

Note: The terminal dimension shows the one before terminal pre-soldering.  
 The terminal pitch dimension is the one measured at "A" surface position.

Sym	Item or Code No.	Material & Size	qt.	Process	Remark
Catalog No.	CPI-24V	Drawing Name DIMENSIONS			
Name	CP RELAY	Drawing No. ACP132			
Remark			Scale: 4:1	Unit: mm	Date: Apr. 15' 04
Drawn	<i>S. Okuyama</i>	Checked	<i>O. Aikio</i>	OBIHIRO MATSUSHITA ELECTRIC WORKS, LTD.	
Designed	<i>S. Okuyama</i>				
		Enacted	<i>N. Ohta</i>		