
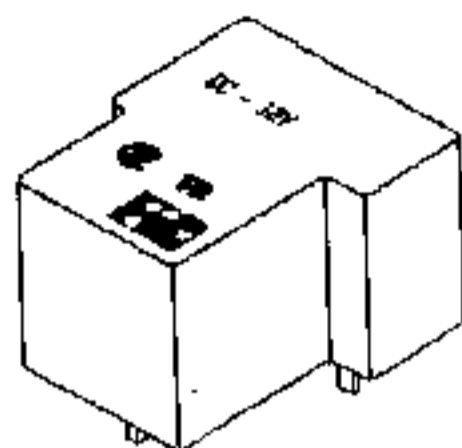


## FEATURES

- Miniature high power designed for mounting on P.C. board
- High contact rating(10-40A), high shock/vibration resistance
- High reliability and long life
- High temperature design "F" Class +155°C is available.
- Ideal for use in control car, air conditioner, home appliance, etc.
- Open type, different dust cover types or sealed type

 Recognized

 Recognized



## SPECIFICATIONS

## COIL RATING

|    | RATED VOLTAGE (V) | COIL RESISTANCE $\Omega$ +/- 10 % | MUST OPERATE VOLTAGE          | MUST DROPOUT VOLTAGE | MAXIMUM VOLTAGE | POWER CONSUMPTION |
|----|-------------------|-----------------------------------|-------------------------------|----------------------|-----------------|-------------------|
|    |                   |                                   | % OF RATED VOLTAGE (AT +20°C) |                      |                 |                   |
| DC | 5                 | 28                                | 75 Max.                       | 10 Min.              | 120 Max.        | 0.9 Approx. (W)   |
|    | 6                 | 40                                |                               |                      |                 |                   |
|    | 9                 | 90                                |                               |                      |                 |                   |
|    | 12                | 160                               |                               |                      |                 |                   |
|    | 18                | 360                               |                               |                      |                 |                   |
|    | 24                | 640                               |                               |                      |                 |                   |
|    | 48                | 2560                              |                               |                      |                 |                   |
|    | 110               | 13445                             |                               |                      |                 |                   |
| AC | 12                | 27                                | 85 Max.                       | 20 Min.              | 120 Max.        | 2.0 Approx. (VA)  |
|    | 24                | 120                               |                               |                      |                 |                   |
|    | 110               | 2360                              |                               |                      |                 |                   |
|    | 120               | 3040                              |                               |                      |                 |                   |
|    | 220/240           | 13490                             |                               |                      |                 |                   |

## CHARACTERISTICS

|                                 |   |
|---------------------------------|---|
| Contact Arrangement             | SPST (1 Form A or 1 Form B); SPDT (1 FORM C)  |
| Contact Material                | Silver Alloy  |
| Contact Resistance              | 50m $\Omega$ Max.   |
| Contact Rating (Resistive Load) | (see Figure 1)  |
| Switching Voltage               | DC 125V Max. AC 250V Max.   |
| Operate Time                    | 10ms Max.   |
| Release Time                    | 8ms Max.  |
| Insulation Resistance           | 1000M $\Omega$ Min. (500V DC)   |
| Dielectric Strength             | 1500V AC 50Hz, 1 minute between open contacts<br>1500V AC 50Hz, 1 minute between coil and contact ("R" type 2500V AC) |
| Shock Resistance                | 20g Approx.   |
| Vibration Resistance            | 1.5mm, 10-55Hz Double Amplitude   |
| Ambient Temperature             | Storage : -55°C to 130°C      Operation : -55°C to +85°C  |
| Humidity                        | 20 - 85% RH   |
| Operation Life                  | Mechanical : $10^7$<br>Electrical : $10^6$ (At rated load)  |
| Weight                          | 22g Approx. (Open Type)      28g Approx. (Sealed Type)  |

[Specifications are subject to change without notice.]

**FIGURE 1**

**A1 UL/CSA RATING TYPE**

|                        | Form A                 | Form B     | Form C                   |            |
|------------------------|------------------------|------------|--------------------------|------------|
|                        | 50/60 Hz               | 50/60Hz    | 50/60 Hz                 |            |
|                        | NO                     | NC         | NO                       | NC         |
| Resistive              | 10A 240V AC            | 5A 240V AC | 10A 240V AC              | 5A 240V AC |
| Tungsten               | 5A 240V AC             | 3A 240V AC | 5A 240V AC               | 3A 240V AC |
| hp                     | 1hp,125VAC; 2hp,240VAC |            | 1/2hp,125VAC. 1hp,240VAC |            |
| Coil Rating: 5-120V DC |                        |            |                          |            |

**A1H UL/CSA RATING TYPE**

|                         | Form A            | Form B                 | Form C            |                       | Cycles |
|-------------------------|-------------------|------------------------|-------------------|-----------------------|--------|
|                         | 50/60 Hz          | 50/60Hz                | 50/60 Hz          |                       |        |
|                         | NO                | NC                     | NO                | NC                    |        |
| Resistive               | 30A 14VDC/ 240VAC | 30A 14VDC / 10A 240VAC | 30A 14VDC/ 240VAC | 30A 14VDC/ 10A 240VAC | 100K   |
| Tungsten                | 15A,120V AC       |                        |                   |                       | 30k    |
| hp                      | 1hp/16 FLA/120V   | 30 LRA/10FLA/120V      | 1hp/16 FLA/120V   | 30 LRA/10FLA/120V     | 30K    |
|                         | 2hp/12 FLA/240V   | 30 LRA/10FLA/240V      | 2hp/12 FLA/240V   | 30 LRA/10FLA/240V     | 30K    |
| Coil Ratings: 5-120V DC |                   |                        |                   |                       |        |

**A1N UL/cUL (\* Pending) RATING TYPE**

|                           | Form A           | Form B           | Form C           |                  | Cycles |
|---------------------------|------------------|------------------|------------------|------------------|--------|
|                           | 50/60 Hz         | 50/60Hz          | 50/60Hz          |                  |        |
|                           | NO               | NC               | NO               | NC               |        |
| Resistive                 | 40A 30VDC/240VAC | 30A 30VDC/240VAC | 40A 30VDC/240VAC | 30A 30VDC/240VAC | 100K   |
| Coil Ratings : 5 - 120VDC |                  |                  |                  |                  |        |

**ORDERING INFORMATION**

**A1 R H C - S - DC12V F**

NIL : CLASS "B" INSULATION 130°C  
 F : CLASS "F" INSULATION 155°C

RATED VOLTAGE : 5-120V DC or 12-220/240V AC

NIL : OPEN TYPE  
 E : DUST COVER <EPOXY BASE>  
 D : DUST COVER <SEPARATE COVER>  
 S : SEALED TYPE <WASHABLE>

CONTACT ARRANGEMENT ————  
 A = 1 FORM A  
 B = 1 FORM B  
 C = 1 FORM C

NIL : GENERAL CAPACITY (10A)  
 H : HIGH CAPACITY (30A)  
 N : NEW HIGH CAPACITY (40A)

**R** : CUT PIN TYPE

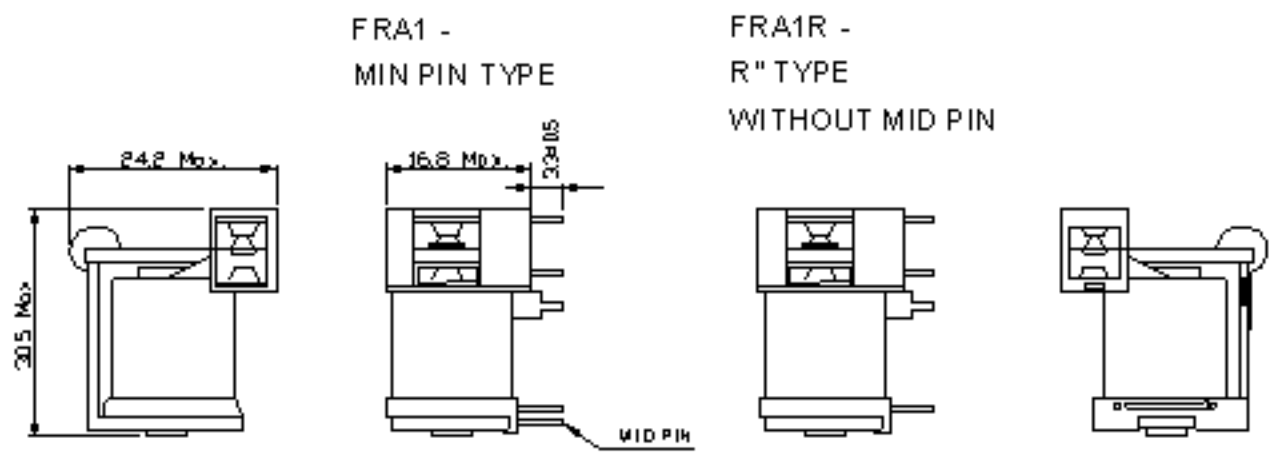
\* NOTE : AC COIL VOLTAGE IS ONLY AVAILABLE WITH CUTPIN TYPE.

**Nil** : WITH MID PIN

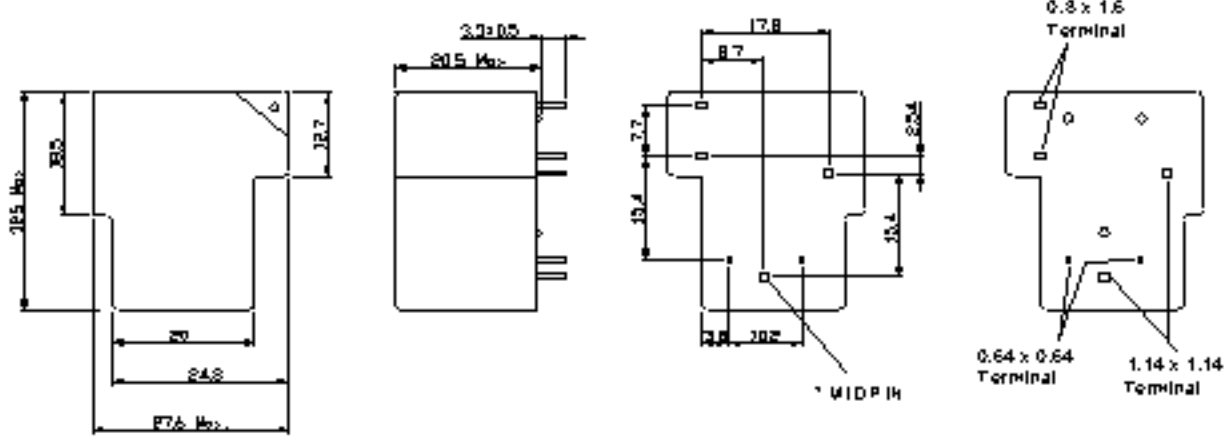
RELAY MODEL

## DIMENSIONS (UNIT : mm)

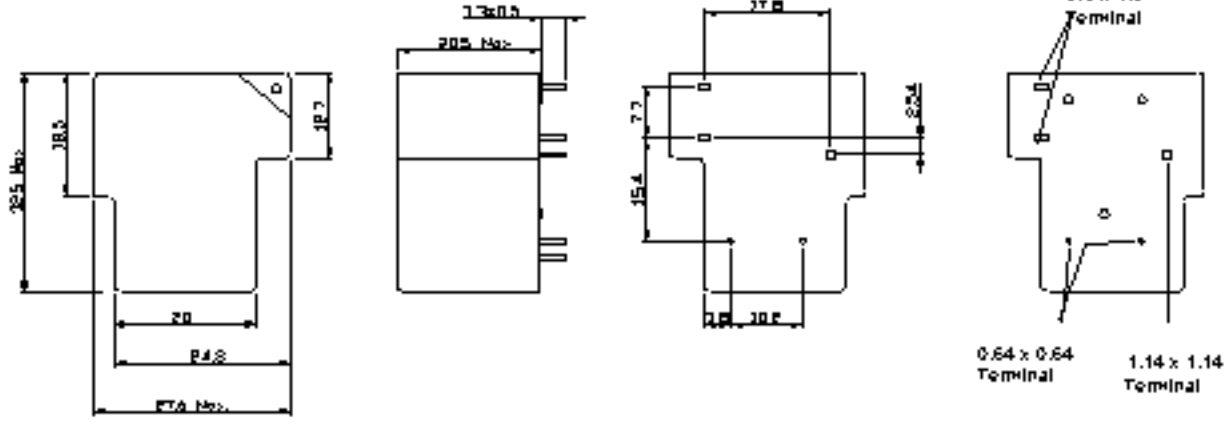
### A1 (OPEN TYPE)



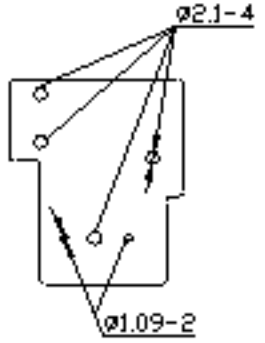
### A1 DUST COVER / SEALED TYPE - WITH MID PIN



### A1R DUST COVER / SEALED TYPE - CUT PIN TYPE



### MOUNTING HOLES



### TERMINAL ARRANGEMENT

