

## FEATURES

- UL,CE,TUV & CQC safety approval.
- Single contact 953 series relay offers 30A switching capacity for various kinds of applications.
- Up to 30A switching in SPDT-NO and 20A switching in SPDT-NC arrangement.
- Meets UL 508 & UL 873 spacing.
- Nominal power 930mW.
- Operating power 520mW.
- Both PCB Terminal & Quick Connect Terminal for contacts.

## CONTACT RATINGS

- Contact Arrangement .....1 Form A (SPST-NO)  
.....1 Form B (SPST-NC)  
.....1 Form C (SPDT)
- Max. Switching Power  
1 Form A.....7500VA 600W  
1 Form B.....5000VA 300W  
1 Form C.....7500VA 600W
- Max. Switching Voltage.....277VAC 30VDC
- Max. Switching Current  
1 Form A.....30A  
1 Form B .....20A  
1 Form C.....30A
- Contact Resistance..... $\leq 50\text{m}\Omega$
- Resistive Load  
1 Form A.....30A/250VAC , 20A/277VAC , 20A/30VDC  
1 Form B.....20A/240VAC , 15A/277VAC , 10A/30VDC  
1 Form C..... NO: 30A/240VAC , 20A/277VAC, 20A/30VDC  
NC: 20A/240VAC , 15A/277VAC , 10A/30VDC
- Contact Material.....Ag Alloy

## CHARACTERISTICS

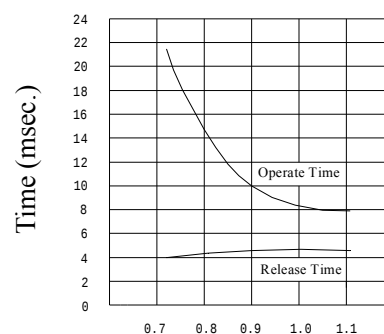
- Electrical Life..... $1 \times 10^5$
- Mechanical Life..... $1 \times 10^7$
- Initial Insulation Resistance.....Min. 500M $\Omega$  500VDC
- Contact Resistance (Initial)..... $\leq 50\text{m}\Omega$
- Operate Time..... $\leq 15\text{ms}$
- Release Time..... $\leq 15\text{ms}$
- Initial Dielectric Strength  
.....50/60Hz 1500VAC 1 min. (between open contacts)  
.....50/60Hz 2500VAC 1 min. (between contacts and coil)



UL FILE NO: E162117/E188367  
TUV FILE NO: R 3-02158203  
CQC FILE NO: CQC02001001783  
CE DECLARATION OF CONFORMITY

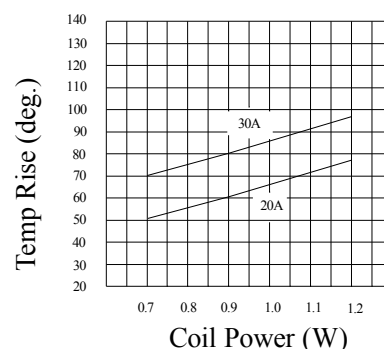
## 953A Referential Data

### Timing



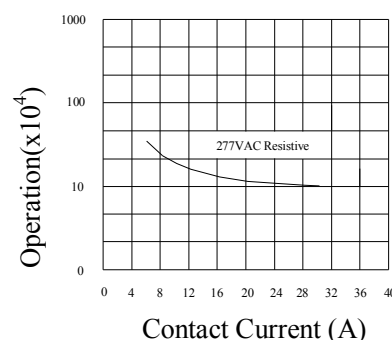
### Coil Power (W)

### Coil Temperature Rise



### Coil Power (W)

### Life Curves



● Vibration Resistance

.....Malfunction: 10 to 55Hz at Double Amplitude of 1.5mm

.....Destructive: 10 to 55Hz at Double Amplitude of 1.5mm

● Shock Resistance

.....Malfunction: 10G (11ms) / Destructive: 100G (6ms)

● Ambient Temperature.....-55℃~+85℃

● Relative Humidity.....85% at 40℃

● Unit Weight.....Approx. 30g

## ORDERING INFORMATION

953 - 1C - 12 D A F - S  
1 2 3 4 5 6 7

Enclosure.....Nil = Open Type

.....S = Sealed Type

Type of Insulation.....Nil = Class A

.....F = Class F

Enclosure Connect Type ...A = Double Connect I Type

Coil Type.....D: DC ; A: AC

Coil Voltage.....DC: 5~48V ; AC: 6~277V

Contact Arrangement.....1A = 1 Form A (SPST-NO)

.....1B = 1 Form B (SPST-NC)

.....1C = 1 Form C (SPDT)

Model Number.....953

## COIL RATINGS (at 20℃)

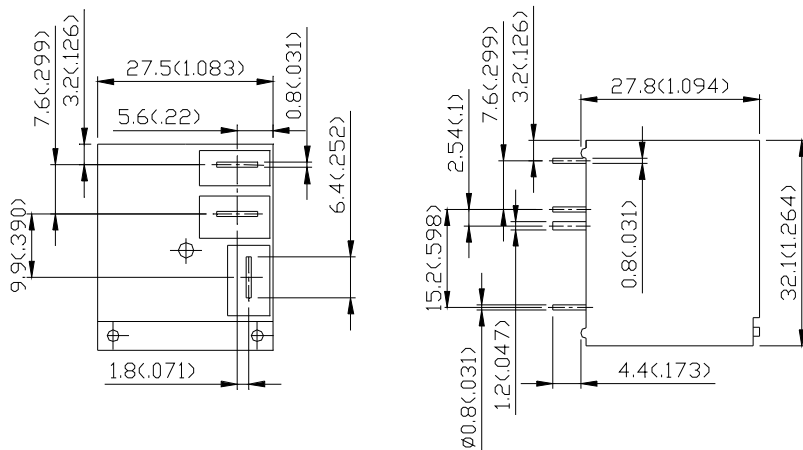
| COIL TYPE            | Coil Nominal Voltage (V) | Coil Resistance ( $\Omega \pm 10\%$ ) | Pick-Up Voltage (V) $\leq$ | Drop-Out Voltage (V) $\geq$ | Nominal Current (mA) |
|----------------------|--------------------------|---------------------------------------|----------------------------|-----------------------------|----------------------|
| DC<br>Standard Coils | 5                        | 27                                    | 3.75                       | 0.5                         | 185                  |
|                      | 6                        | 40                                    | 4.5                        | 0.6                         | 150                  |
|                      | 9                        | 97                                    | 6.75                       | 0.9                         | 93                   |
|                      | 12                       | 155                                   | 9                          | 1.2                         | 77                   |
|                      | 18                       | 380                                   | 13.5                       | 1.8                         | 47                   |
|                      | 24                       | 660                                   | 18                         | 2.4                         | 36                   |
|                      | 36                       | 1440                                  | 27                         | 3.6                         | 25                   |
|                      | 48                       | 2560                                  | 36                         | 4.8                         | 19                   |
| AC                   | 6                        | 10                                    | 5.1                        | 0.6                         |                      |
|                      | 12                       | 43                                    | 10.2                       | 1.2                         |                      |
|                      | 24                       | 160                                   | 20.4                       | 2.4                         |                      |
|                      | 110                      | 3160                                  | 93.5                       | 11                          |                      |
|                      | 220                      | 13490                                 | 187                        | 22                          |                      |
|                      | 277                      | 19900                                 | 235.4                      | 27.7                        |                      |

\* Max Continuous Voltage at 20℃: 110% of Coil Nominal Voltage.

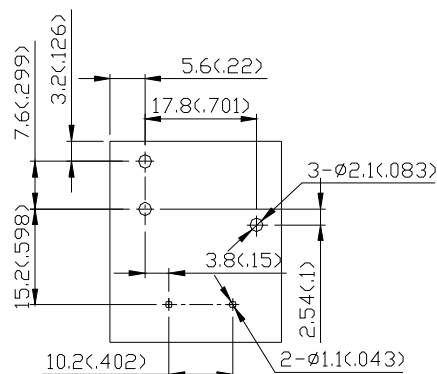
## OUTLINE DIMENSIONS

### SEALED TYPE

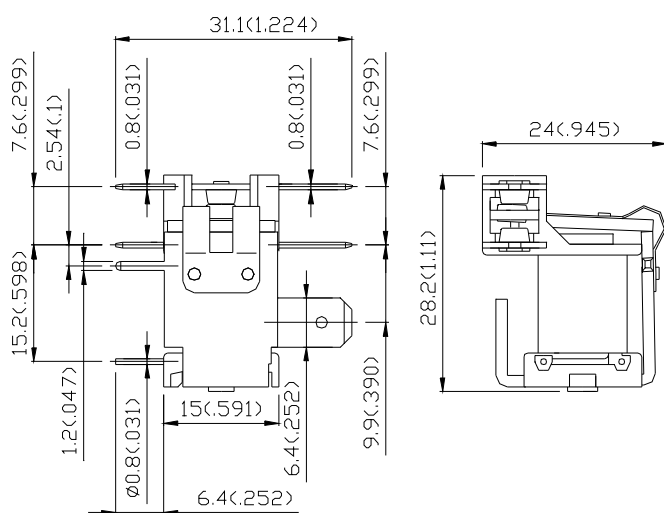
Dimensions



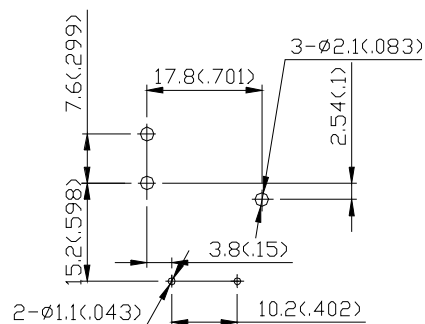
Drilling Plan  
(Bottom View)



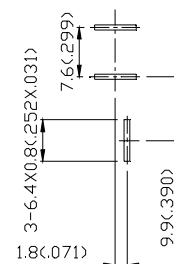
### OPEN TYPE



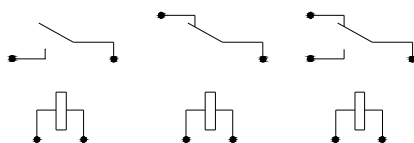
(Bottom View)



(Top View)



Internal Connections  
(Bottom View)



REMARK: Tolerance of outline dimensions:  $\pm 0.2(.008)$ .

UNIT: mm (inch)

## SAFETY APPROVAL

### ● UL APPROVAL

| Contact Rating                         | 1 Form A<br>(SPST-NO)                                                                                                                              | 1 Form B<br>(SPST-NC)                | 1 Form C (SPDT)                    |                                      |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|------------------------------------|--------------------------------------|
|                                        |                                                                                                                                                    |                                      | NO                                 | NC                                   |
| Resistive Load                         | 20A / 277VAC<br>19.8A / 277VAC<br>30A / 240VAC<br>20A / 30VDC                                                                                      | 15A / 277VAC<br>10A / 30VDC          | 20A / 277VAC<br>20A / 30VDC        | 15A / 277VAC<br>10A / 30VDC          |
| General Purpose Load                   | 10A / 277VAC                                                                                                                                       | 8A / 277VAC                          | 10A / 277VAC                       | 8A / 277VAC                          |
| Motor Load<br>(Cos $\phi$ : 0.4 ~ 0.5) | 2HP / 250VAC<br>1HP / 125VAC                                                                                                                       | 1/2HP / 250VAC<br>1/4HP / 125VAC     | 2HP / 250VAC<br>1HP / 125VAC       | 1/2HP / 250VAC<br>1/4HP / 125VAC     |
| Horse Power                            | FLA 10.3 LRA 61.8 / 277VAC<br>FLA 11.2 LRA 67.2 / 240VAC<br>FLA 12 / 250VAC<br>FLA 16 LRA 96 / 240VAC<br>FLA 16 LRA 96 / 120VAC<br>FLA 16 / 125VAC | FLA 4.9 / 250VAC<br>FLA 5.8 / 125VAC | FLA 12 / 250VAC<br>FLA 16 / 125VAC | FLA 4.9 / 250VAC<br>FLA 5.8 / 125VAC |
| Ballast                                | 20A / 277VAC                                                                                                                                       |                                      | 20A / 277VAC                       |                                      |

### I TUV APPROVAL

| Contact Rating                                 | 1 Form A<br>(SPST-NO)            | 1 Form B<br>(SPST-NC)            | 1 Form C (SPDT)                  |                                  |
|------------------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
|                                                |                                  |                                  | NO                               | NC                               |
| Resistive Load                                 | 30A / 250VAC<br>20A / 30VDC      | 15A / 250VAC<br>15A / 30VDC      | 20A / 250VAC<br>20A / 30VDC      | 10A / 250VAC<br>10A / 30VDC      |
| Inductive Load<br>(Cos $\phi$ : 0.4, L/R: 7ms) | 15A / 250VAC<br>15A / 30 VDC     | 8A / 250VAC<br>8A / 30VDC        | 10A / 250VAC<br>10A / 30VDC      | 8A / 250VAC<br>8A / 30VDC        |
| Motor Load<br>(Cos $\phi$ : 0.6)               | 2HP / 250VAC<br>1HP / 125VAC     | 1/2HP / 250VAC<br>1/4HP / 125VAC | 2HP / 250VAC<br>1HP / 125VAC     | 1/2HP / 250VAC<br>1/4HP / 125VAC |
| Pilot Duty Load<br>(Rate 6000 Operations)      | 720VA / 240VAC<br>800VA / 125VAC | 360VA / 240VAC<br>290VA / 125VAC | 470VA / 240VAC<br>470VA / 125VAC | 360VA / 240VAC<br>290VA / 125VAC |

### I CQC APPROVAL

| Contact Rating | 1 Form A<br>(SPST-NO) | 1 Form B<br>(SPST-NC) | 1 Form C (SPDT) |              |
|----------------|-----------------------|-----------------------|-----------------|--------------|
|                |                       |                       | NO              | NC           |
| Resistive Load | 30A / 240VAC          | 20A / 240VAC          | 30A / 240VAC    | 20A / 240VAC |

### I CE DECLARATION OF COFORMITY

In conformity with the Low Voltage Directive 73/23/EEC

Test Report No.: E9967734E02 (TUV)

Test Specification: EN61810-1 、 EN61810-5 、 EN60255-23