



SRUDH series

12 Amp Miniature Power PC Board Relay

Appliances, HVAC, Office Machines

UL File No. E82292

CSA File No. LR48471

TUV File No. R60271

Features

- Low cost, small package, 12 Amp switching capacity.
- 1 Form A and 1 Form C contact arrangements.
- Immersion cleanable, sealed version available.
- Applications include appliance, HVAC, security system, garage opener control, emergency lighting.

Contact Data @ 20°C

Arrangements: 1 Form A (SPST-NO) and 1 Form C (SPDT)

Material: AgCdO

Max. Switching Rate: 300 ops./min. (no load).
30 ops./min. (rated load).

Expected Mechanical Life: 10 million operations (no load).

Expected Electrical Life: 100,000 operations (rated load).

Minimum Load: 100mA @ 5VDC.

Initial Contact Resistance: 100 milliohms @ 1A, 6VDC.

Contact Ratings

Ratings: 12A @ 120VAC resistive,
10A @ 240VAC resistive,
10A @ 28VDC resistive.

4A @ 120VAC inductive ($\cos\phi = 0.4$),
4A @ 28VDC inductive ($L/R = 7\text{msec}$)

Max. Switched Voltage: AC: 240V.
DC: 110V.

Max. Switched Current: 12A.

Max. Switched Power: 2,400VA, 300W.

Initial Dielectric Strength

Between Open Contacts: 750VAC 50/60 Hz. (1 minute).

Between Coil and Contacts: 1,500VAC 50/60 Hz. (1 minute).

Surge Voltage Between Coil and Contacts: 3,000V (1.2 / 50 μ s).

Initial Insulation Resistance

Between Mutually Insulated Elements: 1,000M ohms min. @ 500VDCM.

Coil Data

Voltage: 3 to 48VDC.

Nominal Power: 360 mW except 48VDC coil (510mW)

Coil Temperature Rise: 35°C max., at rated coil voltage.

Max. Coil Power: 130% of nominal.

Duty Cycle: Continuous.

Coil Data @ 20°C

| SRUDH | | | | |
|--------------------------|----------------------|-----------------------------------|----------------------------|----------------------------|
| Rated Coil Voltage (VDC) | Nominal Current (mA) | Coil Resistance (ohms) $\pm 10\%$ | Must Operate Voltage (VDC) | Must Release Voltage (VDC) |
| 3 | 120 | 25 | 2.25 | 0.30 |
| 6 | 60 | 100 | 4.50 | 0.60 |
| 9 | 40 | 225 | 6.75 | 0.90 |
| 12 | 30 | 400 | 9.00 | 1.20 |
| 24 | 15 | 1,600 | 18.00 | 2.40 |
| 48 | 10 | 4,500 | 36.00 | 4.80 |

Operate Data

Must Operate Voltage: 75% of nominal voltage or less.

Must Release Voltage: 10% of nominal voltage or more.

Operate Time: 15 ms max.

Release Time: 5 ms max.

Environmental Data

Temperature Range:

Operating: -30°C to +60°C

(no water condensation and no water drop.)

Vibration, Mechanical: 10 to 55 Hz., 1.5mm double amplitude

Operational: 10 to 55 Hz., 1.5mm double amplitude.

Shock, Mechanical: 1,000m/s² (100G approximately).

Operational: 100m/s² (10G approximately).

Operating Humidity: 20 to 85% RH.

Mechanical Data

Termination: Printed circuit terminals.

Enclosure (94V-0 Flammability Ratings):

SRUDH-SS: Vented (Flux-tight) plastic cover

SRUDH-SH: Sealed plastic case

Weight: 12g approximately.

Ordering Information

Typical Part Number ▶

SRUDH

-SS

-1

12

D

M

1

1. Basic Series:

SRUDH = Miniature Power PC board relay.

2. Enclosure:

SS = Vent (Flux-tight)* plastic cover.

SH = Sealed, plastic case.

3. Termination:

1 = 1 pole

4. Coil Voltage:

03 = 3VDC

09 = 9VDC

24 = 24VDC

06 = 6VDC

12 = 12VDC

48 = 48VDC

5. Coil Input:

D = Standard

6. Contact Arrangement:

Blank = 1 Form C, SPDT

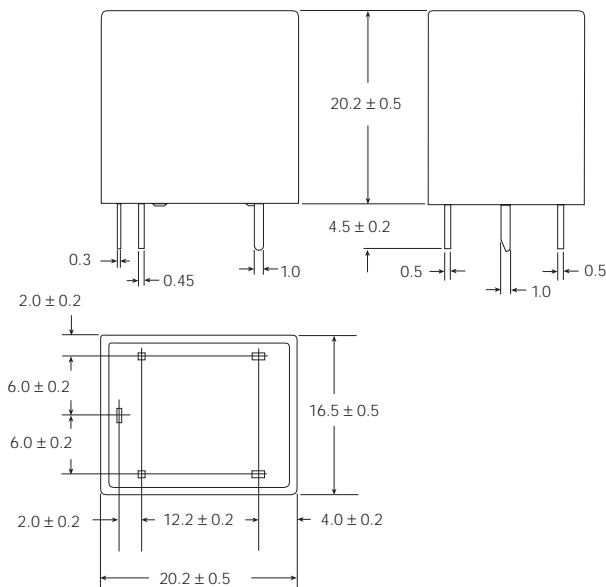
M = 1 Form A, SPST-NO

7. Contact Material:

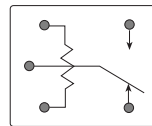
1 = AgCdO

* Not suitable for immersion cleaning processes.

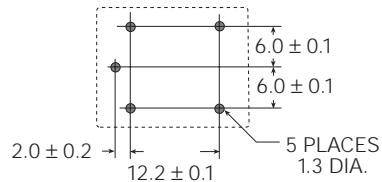
Outline Dimensions



Wiring Diagram (Bottom View)

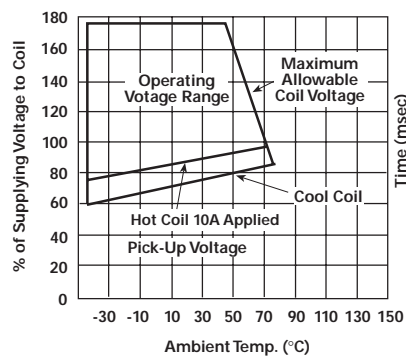


PC Board Layout (Bottom View)



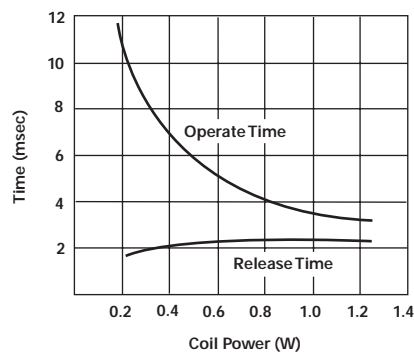
Reference Data

Coil Temperature Rise



Note: This data is based on the max. allowable temperature for E type insulation coil (115°C).

Operate Time



Life Expectancy

