

# 190 series

# 2 Amp, DPDT, High Sensitivity, DIP PC Board Relay

**File E55708** 

File LR73303

Users should thoroughly review the technical data before selecting a product part number. It is recommended that users also seek out the pertinent approvals files of the agencies/laboratories and review them to ensure the product meets the requirements for a given application.

### Coil Data @ 23°C

Nominal Voltage (VDC)	Current ±10% (mA)	Maximum Voltage (VDC)	Resistance ±10% (Ohms)	Approx. Power (mW)				
Standard sensitivity (Max. Voltage stated @ 65°C, except 48V @ 60°C)								
3 5 6 9 12 24 48	166.7 100.0 83.3 55.6 41.7 20.8 12.0	3.6 6.0 7.2 10.8 14.4 28.8 52.8	18 50 72 162 288 1,152 4,000	500 500 500 500 500 500 580				
High sensitivity (Max. Voltage stated @ 70°C)								
3 5 6 9 12 24 48	120.7 72.0 60.0 40.0 30.0 15.0 7.5	3.6 6.0 7.2 10.8 14.4 28.8 52.8	25 70 100 225 400 1,600 6,400	360 360 360 360 360 360 360 360				
Ultra high sensitivity (Max. Voltage stated @ 70°C)								
3 5 9 12 24 48	50.0 30.0 25.0 16.7 12.5 8.3 6.25	4.5 7.5 9.0 13.5 18.0 36.0 72.0	60 167 240 540 960 2,880 7,680	150 150 150 150 150 200 300Ap				

## Features

- Standard DIP configuration mates with 16-pin socket.
- Meets FCC Part 68 (10/160μs).
- For applications in telecommunications, office automation, security devices, measurement and control equipment.
- · Immersion cleanable, plastic sealed case.
- Standard, high and ultra-sensitive coils.
- Ultrasonic cleaning not recommended.

#### Contact Data @ 23°C

**Initial Dielectric Strength** 

Between Poles: 1,500V

**Initial Insulation Resistance** 

Arrangement: Bifurcated 2 Form C (DPDT) contacts. Material: Stationary: Silver, gold clad. Ratings: Max. Switched Current: 2A. Max. Carry Current: 2A. Max. Switched Voltage (at nom. voltage): 125VDC, 125VAC. Max. Switched Power: 60W DC or 62.5VA AC. Min. Switching Load: 10µA, 10mVDC. Rated Load: 500mA at 125VAC. Initial Contact Resistance: 50 milliohms.

Expected Mechanical Life: 15,000,000 ops at 36,000 ops/hr.

Between Open Contacts: 750VAC 50/60 Hz. for 1 minute. Between Coil and Contacts: 1,000VAC 50/60 Hz. for 1 minute.

Between Contact and Coil: 109 ohms or more @ 500VDC.

Between Poles: 1,000VAC 50/60 Hz. for 1 minute.

Between Open Contacts: 1,500V

Between Coil and Contacts: 1,500V

Surge Voltage Resistance per FCC 68 (10 / 160 µs):

# Operate Data @ 23°C

Operate Voltage: 75% of nominal voltage. Release Voltage: 5% of nominal voltage. Operate Time: 7 ms, max. (3.5 ms, mean). Release Time: 3 ms, max. (0.8 ms, mean). Bounce Time: Operate: 0.5 ms, approx. Release: 3.5 ms, approx. Operating Frequency: Mechanical: 36,000 ops/hr. Electrical: 1,800 ops/hr at rated load.

## **Environmental Data**

Temperature Range: -40°C to +70°C. Relative Humidity Range: 35% to 85%. Shock: Functional: 200m/s<sup>2</sup> (approx. 10g). Destructive: 1,000m/s<sup>2</sup> (approx. 100g). Vibration: 10-55 Hz., .059 in (1.5 mm) double amplitude.

# Coil Data @ 23°C

Voltage: 3 to 48VDC. Nominal Power: 150mW to 580mW. See Coil Data table for details. Duty Cycle: Continuous.

Dimensions are shown for reference purposes only.

Downloaded from Arrow.com.

Dimensions are in inches over (millimeters) unless otherwise specified.

#### Mechanical Data

Termination: DIP compatible, printed circuit terminals. Enclosure Type: Immersion cleanable plastic case. Weight: 0.21 oz. (6g) approximately.

> Specifications and availability subject to change.

# **Operational Performance Curves**



# **Ordering Information**

	Typical Part Number 🕨	190	- 2	2	В	2	UO	
1. Basic Series: 190 = Miniature PC board relay.								
2. Enclosure and Terminals:   2= DIP, 16-pin package, sealed.								
3. Contact Arrangement: 2= DPDT (2 form C).								
4. Coil Voltage:J = 3VDCA= 6VDCE = 5VDCG = 9VDCC = 9VDCC = 9VDC	= 12VDC D = 48VDC = 24VDC							
5. Contact Material and Type: 2= Silver, gold clad. Bifurcated crossbar.								
6. Coil Sensitivity UO = Standard sensitivity (Approx. 500-580mW).SO = High sensitivity. (Approx. 360mW)US = Ultra high sensitivity. (Approx. 150-200mW)								

## Our authorized distributors are more likely to stock the following items for immediate delivery.

190-22B2UO 190-22C2UO 190-22E2UO

# **Outline Dimensions**



# PC Board Layout (Bottom View)



Dimensions are shown for 332 reference purposes only. Wiring Diagram (Bottom View)

