

T7C series

5 - 12 Amp Miniature Power PC Board Relay

File E22575

File LR48471

Users should thoroughly review the technical data before selecting a product part number. It is recommended that user 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.



Features

- Up to 12 amp switching capacity.
- UL Class F (155°C) coil insulation system.
- 1 Form A and 1 Form C contact arrangements.
- Ideal for domestic appliances, HVAC and security.
- Resists high temperature and various chemical solutions.

Contact Data @ 20°C

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

Material: Silver-cadmium oxide or silver.

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

Expected Mechanical Life: 10 million operations.

Expected Electrical Life: 100,000 operations.

Minimum Load: 10mA @ 5VDC

Initial Contact Resistance: Ag: 100 milliohms max. @ 100mA, 6VDC.
AgCdO: 100 milliohms max. @ 1A, 6VDC.

Silver Cadmium Oxide Contact Ratings @ 20°C with relay properly vented. Remove vent nib after soldering and cleaning.

Contact Arrang.	UL/CSA Ratings	Type	Operations
1 & 5	1/3HP NO @ 120VAC	Motor	6,000**
	TV-2 NO @ 120VAC	Tungsten	25,000**
	5.4LRA/0.9FLA NO @ 240VAC	Motor	30,000***
	10LRA/1.5FLA @ 120VAC	Motor	30,000***
	12A NO @ 120VAC	Resistive/GP	100,000*
	34.8LRA/6FLA NO @ 120VAC	Motor	100,000**
	10A/5A @ 240VAC	Resistive/GP	100,000**
	10A/5A @ 28VDC	Resistive	100,000**
	240VA, 240VAC	Pilot Duty	100,000**
	4LRA/4FLA NO @ 120VAC	Motor	100,000****
	4LRA/2FLA NC @ 120VAC	Motor	100,000****
	6LRA/6FLA NO @ 120VAC	Motor	100,000***
	7A @ 277VAC	Resistive/GP	100,000
	10LRA/2.5FLA NO @ 277VAC	Motor	100,000

Consult factory for other ratings.

*Denotes test at 60°C ambient temperature.

**Denotes test at 70°C ambient temperature.

***Denotes test at 85°C ambient temperature.

****Denotes test at 105°C ambient temperature.

Silver Contact Ratings @ 20°C with relay properly vented. Remove vent nib after soldering and cleaning.

Contact Arrang.	Ratings	Type	Operations
1 & 5	5A @ 120VAC	Resistive	6,000
	5A @ 28VDC	Resistive	6,000

Initial Dielectric Strength

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

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

Initial Insulation Resistance

Between Mutually Insulated Elements: 10⁸ ohms min. @ 500VDC.

Coil Data @ 20°C

Voltage: 3 to 48VDC.

Nominal Power: 360 milliwatts.

510 milliwatts for 48VDC coil.

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

Max. Coil Voltage: 130% of nominal.

Duty Cycle: Continuous.

Coil Data @ 20°C

Rated Coil Voltage (VDC)	Coil Resistance (Ohms) +10%	Must Operate Voltage (VDC)	Must Release Voltage (VDC)
3	25	2.25	0.15
5	70	3.50	0.25
6	100	4.50	0.30
9	225	6.75	0.45
12	400	9.00	0.60
24	1,600	18.00	1.20
48	4,500	36.00	2.40

Operate Data @ 20°C

Operate Time: 10 ms (excluding bounce).

Release Time: 5 ms (excluding bounce).

Environmental Data

Temperature Range:

Storage: -40°C to +130°C.

Operating: -40°C to +85°C.

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

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

Shock, Mechanical: 100g min.

Operational: 10g min.

Operating Humidity: 45 to 85% RH.

Mechanical Data

Termination: Printed circuit terminals.

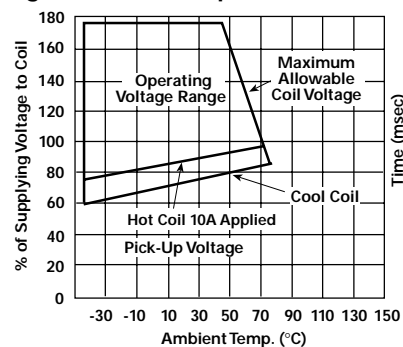
Enclosure (94V-0 Flammability Ratings):

T7CS: Immersion cleanable with knock-off nib.

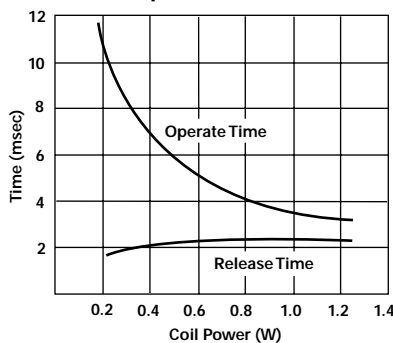
T7CV: Vented, flux-tight, plastic cover with knock-off nib.

Weight: 0.42 oz. (12g).

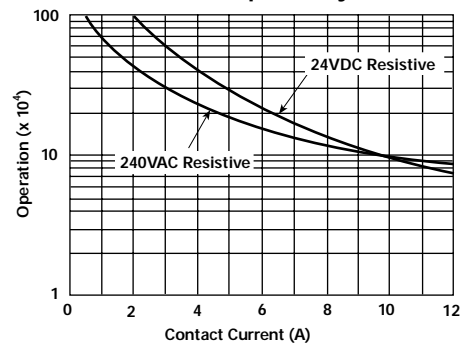
Figure 1 - Coil Temperature Rise



Operate Time



Life Expectancy



Note: Graphical data should not be used as a substitute for specific application verification. To be used for estimates only. Graphical data applicable to model with silver cadmium oxide contacts.

Ordering Information

Typical Part Number ▶

T7C V 5 D -24

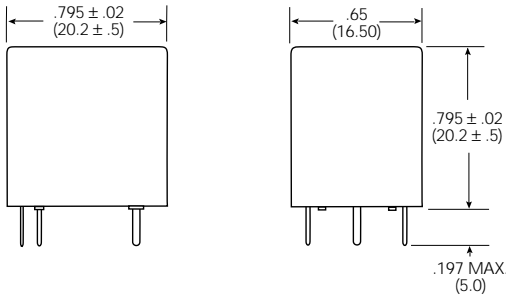
1. Basic Series: T7C = Miniature power relay.			
2. Enclosure: V = Vented (Flux-tight)*		S = Immersion cleanable case with knock-off nib.	
3. Contact Arrangement: 1 = 1 Form A (SPST-NO)		5 = 1 Form C (SPDT)	
4. Coil Input: D = DC Voltage			
5. Contact Material: Leave Blank = Silver Cadmium Oxide (12A Max. Rating)		2 = Silver (5A Max. Rating)	
6. Coil Voltage:			
03 = 3VDC	05 = 5VDC	06 = 6VDC	09 = 9VDC
12 = 12VDC	18 = 18VDC	24 = 24VDC	48 = 48VDC

* Not suitable for immersion cleaning processes.

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

T7CV5D-05	T7CV5D-12	T7CS5D-05	T7CS5D-12
T7CV5D-06	T7CV5D-24	T7CS5D-06	T7CS5D-24

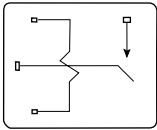
Outline Dimensions



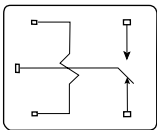
Movable Contact Terminal:
.012 x .039 (0.3 x 1.0)
Stationary Contact Terminals:
.012 x .039 (0.3 x 1.0)
Coil Terminals:
.022 x .022 (.56 x .56)

Wiring Diagrams (Bottom Views)

1 Form A

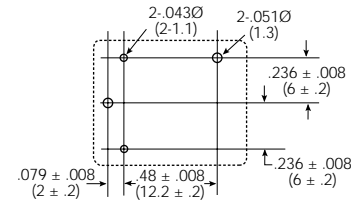


1 Form C

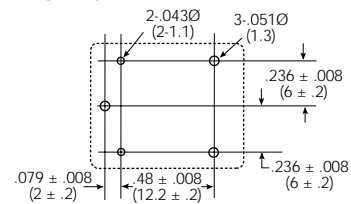


Suggested PC Board Layouts (Bottom Views)

1 Form A

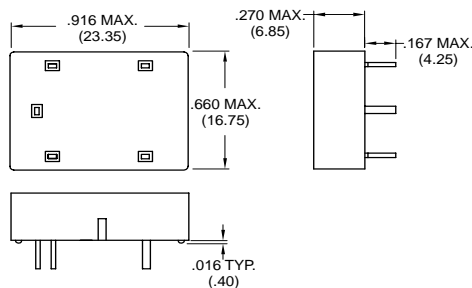


1 Form C



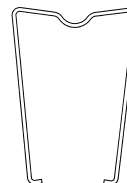
Socket

27E1064 socket is rated 10A @ 300VAC. UL Recognized for US and Canada. Designed to fit same suggested board layout as relay.



Hold-Down Spring

20C430 spring is designed to secure T7C relay in 27E1064 socket.



Dimensions are shown for reference purposes only.

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

Specifications and availability subject to change.

www.tycoelectronics.com
 Technical support:
 Refer to inside back cover.