Subminiature Intermediate Power Relay	CS

Features

- 10A switching capability
- 1 Form A and 1 Form C configurations
- Plastic sealed type
- Subminiature, Standard PCB layout

c UL us
(File No.:E134581)

1. COIL DATA (at 23℃)

1) Standard type

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Current (mA)(±10%)	Coil Resistance (Ω)	Coil Power (mW)
3	2.25	0.15	3.90	150	20 x (1±10%)	450
5	3.75	0.25	6.50	90.0	55 x (1±10%)	
6	4.50	0.30	7.80	75.0	80 x (1±10%)	
9	6.75	0.45	11.7	50.0	180 x (1±10%)	
12	9.00	0.60	15.6	37.5	320 x (1±10%)	
18	13.5	0.90	23.4	25.0	720 x (1±10%)	
24	18.0	1.20	31.2	18.8	1280 x (1±10%)	
48	36.0	2.40	62.4	9.40	5120 x (1±10%)	

2) Sensitive type (Only for 1 Form A)

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VDC)	Coil Current (mA)(±10%)	Coil Resistance (Ω)	Coil Power (mW)
3	2.25	0.15	4.50	66.7	45 x (1±10%)	200
5	3.75	0.25	7.50	40.0	125 x (1±10%)	
6	4.50	0.30	9.00	33.3	180 x (1±10%)	
9	6.75	0.45	13.5	22.2	400 x (1±10%)	
12	9.00	0.60	18.0	16.7	720 x (1±10%)	
18	13.5	0.90	27.0	11.1	1600 x (1±10%)	
24	18.0	1.20	36.0	8.33	2800 x (1±10%)	
48	36.0	2.40	72.0	4.17	11520 x (1±10%)	

2. CONTACT DATA

Contact Arrangement		1 Form A		1 Form C
Contact Resistance		100mΩ max. (at 1A 6VDC)		
Contact Material		AgNi		
Contact Ratings		Standard (450mW)	Sensitive (200mW)	Standard (450mW)
		SH: 5A 250VAC / 30VDC SGH: 10A 250VAC / 30VDC	H: 3A 250VAC / 30VDC Q: 8A 250VAC	SH: 3A 250VAC 3A 30VDC
Max. Switching Voltage		250VAC / 30VDC		
Max. Switching Current		10A		
Max. Switching Power		"SGH" type: 2500VA / 300W Others: 1,250VA / 150W		
Life Expectancy	Electrical	100,000 operations		
	Mechanical	10,000,000 operations		

3. CHARACTERISTICS

Insulation Resistance		1000MΩ (at 500VDC)
Dielectric Strength	Open Contacts	1000VAC 1min
	Contacts and Coil	2500VAC 1min
Operate Time (at nominal voltage)		8ms max
Release Time (at nominal voltage)		5ms max
Temperature Range	Standard	-40℃ ~ 70℃
Shock Resistance	Functional	98 m/s^2
	Destructive	980 m/s^2
Vibration Resistance		10 ~ 55Hz, 1.5mm DA
Humidity		5 ~ 85% RH
Termination		PCB
Weight		Approx. 6g
Outline Dimension (L x W x H)		18.4 x 10.2 x 15.3 mm

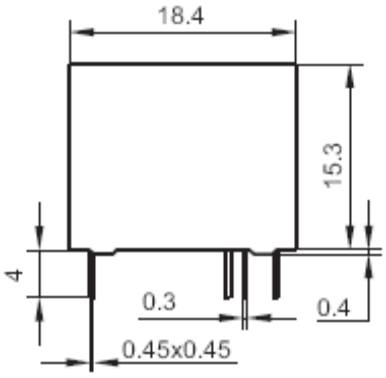
4. ORDERING INFORMATION

CS ①	11 ②	-	12 ③	SH ④

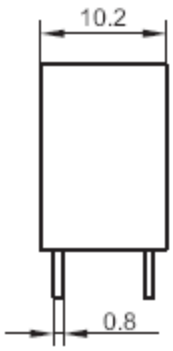
① Relay Model	CS
② Contact Arrangement	11: 1 Form A (SPST-NO) 1: 1 Form C (SPDT)
③ Coil Voltage	3=3VDC, 5=5VDC, 6=6VDC, 9=9VDC, 12=12VDC, 18=18VDC, 24=24VDC, 48=48VDC
④ Contact Capacity & Coil Power	SH: 5A 250VAC/30VDC, Coil Power 450mW (only for 1 Form A) 3A 250VAC/30VDC, Coil Power 450mW (only for 1 Form C) SGH: 10A 250VAC / 30VDC, Coil Power 450mW (only for 1 Form A) H: 3A 250VAC/30VDC, Coil Power 200mW (only for 1 Form A) Q: 8A 250VAC, Coil Power 200mW (only for 1 Form A)

5. DIMENSIONS (Unit: mm)

Outline Dimensions



1 Form A



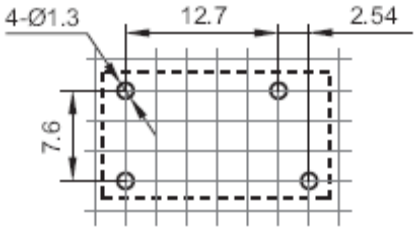
1 Form C

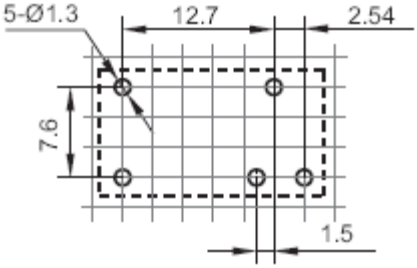
Wiring Diagram (Bottom View)

1 Form A

1 Form C

PCB Layout (Bottom view)





Remark: 1) In case of no tolerance shown in outline dimension: outline dimension ≤1mm, tolerance should be ±0.2mm; outline dimension >1mm and ≤5mm, tolerance should be ±0.3mm; outline dimension >5mm, tolerance should be ±0.4mm.

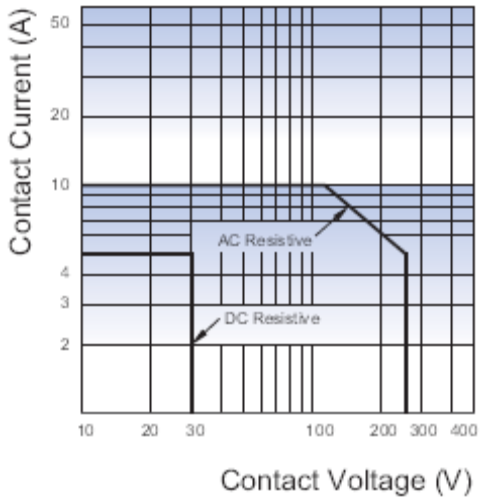
2) The tolerance without indicating for PCB layout is always ±0.1mm.

3) The width of the gridding is 2.54mm.

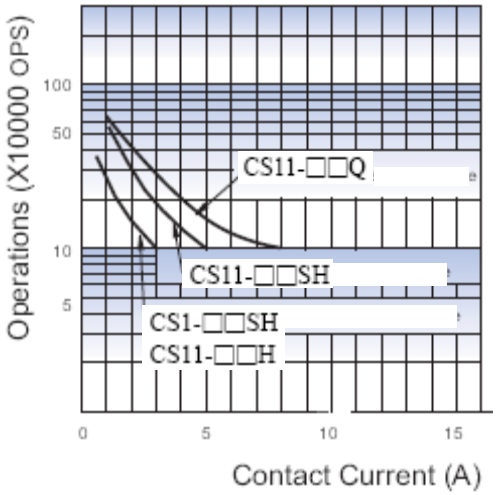
6. CHARACTERISTIC CURVES

1) CS11-□□SH, CS11-□□H, CS11-□□Q, CS1-□□SH

Maximum Switching Power

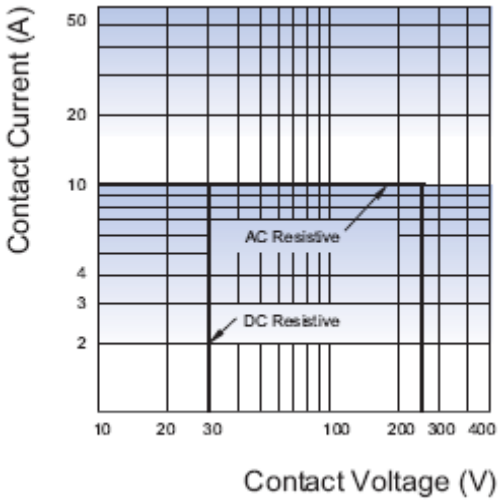


Endurance Curve

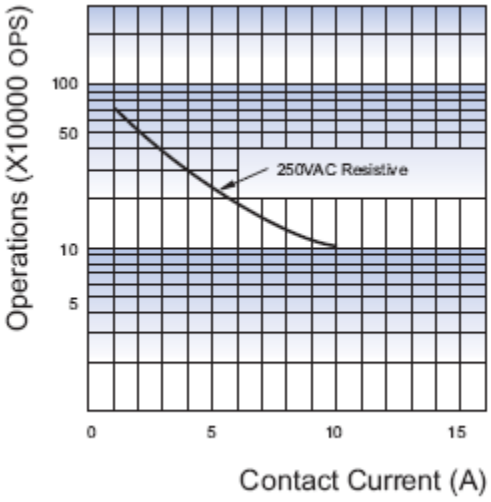


2) CS11-□□SGH

Maximum Switching Power



Endurance Curve



Coil Temperature Rise for all type