

Miniature Intermediate Power Relay

EKMH

Features

- Switching capability
2C, 3C: 7A, 4C: 5A
- 1.5kV dielectric strength
(between coil and contacts)
- Various terminals available
- Socket available
- 2 ~4 poles configurations



(File No.:E122258)

1. COIL DATA (at 20°C)

1) DC Type

Nominal Voltage (VDC)	Pick-up Voltage (VDC)	Drop-out Voltage (VDC)	Max Allowable Voltage (VAC)	Coil Current (mA)(10%)	Coil Resistance (Ω)	Coil Power (W)
5	3.75	0.5	5.5	178.5	28 x (1±10%)	Approx. 0.9
6	4.50	0.6	6.6	150.0	40 x (1±10%)	
12	9.00	1.2	9.9	75.00	160 x (1±10%)	
24	18.0	2.4	26.4	37.50	640 x (1±10%)	
48	36.0	4.8	52.8	18.75	2560 x (1±15%)	
110/120	82.5	11	132	10	11000 x (1±15%)	

2) AC Type

Nominal Voltage (VAC)	Pick-up Voltage (VAC)	Drop-out Voltage (VAC)	Max Allowable Voltage (VAC)	Coil Resistance (Ω)	Coil Power (VA)
6	4.80	1.2	6.6	11.5 x (1±10%)	Approx. 1.2
12	9.60	2.4	13.2	46 x (1±10%)	
24	19.2	4.8	26.4	180 x (1±10%)	
48	38.4	9.6	52.8	735 x (1±10%)	
110/120	96	22	132	4550 x (1±15%)	
220/240	176	44	264	14400 x (1±15%)	

Note: The maximum allowable voltage refers to the maximum voltage which relay coil could endure in a short period of time.

2. CONTACT DATA

Contact Arrangement	2 Form C, 3 Form C	4 Form C
Contact Resistance	100mΩ max. (at 1A 6VDC)	
Contact Material	AgSnO ₂	
Load	Resistive load (COSΦ=1)	
Contact Ratings (Resistive load)	7A 240VAC / 30VDC	5A 240VAC / 28VDC
Minimum Contact Load	100mA 5VDC	
Max. Switching Voltage	240VAC / 30VDC	240VAC / 28VDC
Max. Switching Current	7A	5A
Max. Switching Power	1680VA / 210W	1200VA / 140W
Life Expectancy	Electrical	100,000 operations (at 6 operations/minute)
	Mechanical	10,000,000 operations (at 300 operations/minute)

3. CHARACTERISTICS

Insulation Resistance		100MΩ Min. (at 500VDC)
Dielectric Strength	Open Contacts	1000VAC (50/60Hz 1min)
	Coil and Contacts	1500VAC (50/60Hz 1min)
Operate Time (at nominal voltage)		25ms
Release Time (at nominal voltage)		25ms
Temperature Range		-40℃ ~ 70℃
Shock Resistance	Functional	2C, 3C: 10G 4C: 20G
	Destructive	100G
Vibration Resistance		10 ~ 55Hz, 1.5mm DA
Humidity		20 ~ 85%
Termination		PCB, Plug-in
Weight		Approx. 35g
Outline dimension (L x W x H)		28.0 x 21.5 x 35.0mm

4. SAFETY APPROVAL

Safety Standard	Contact Form	Contact Rating
UL/cUL	2 Form C 3 Form C	7A 240VAC 7A 30VDC
	4 Form C	5A 240VAC 5A 28VDC

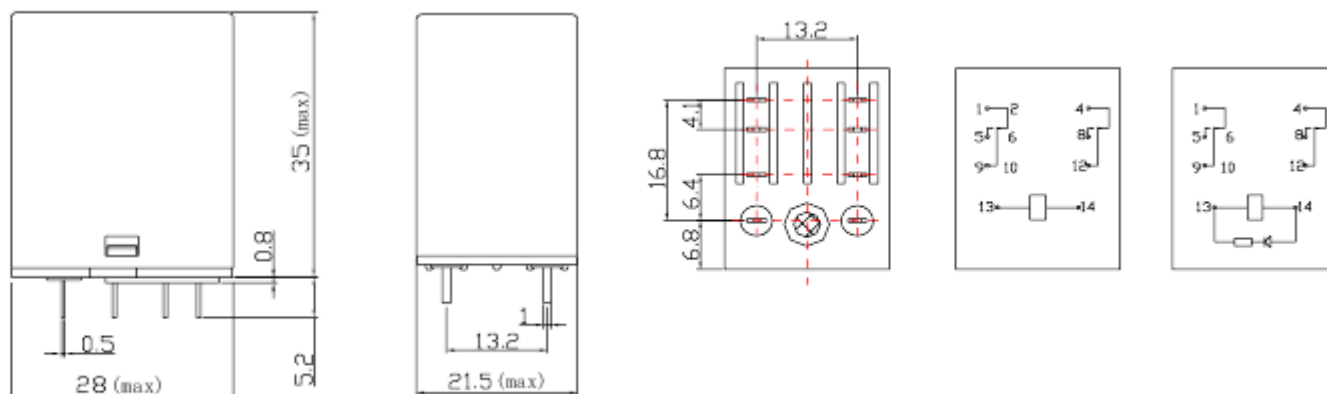
5. ORDERING INFORMATION

<u>E</u> K <u>M</u> H	<u>2</u>	-	<u>D</u> 24	<u>S</u>
①	②		③	④
① Relay Model	EKM H			
② Contact Arrangement	2: 2 Form C (DPDT) 3: 3 Form C (3PDT) 4: 4 Form C (4PDT)			
③ Coil Voltage	DC: D5=5VDC, D6=6VDC, D12=12VDC, D24=24VDC, D48=48VDC, D110/120=110/120VDC AC: A6=6VAC, A12=12VAC, A24=24VAC, A48=48VAC, A110/120=110/120VAC, A220/240=220/240VAC			
④ Terminal Form	P: PC board S: Plug-in B: Flange mounting (Plug-in) PB: Flange mounting (PCB) SL: Light emitting diode with plug-in PL: Light emitting diode with PC board			

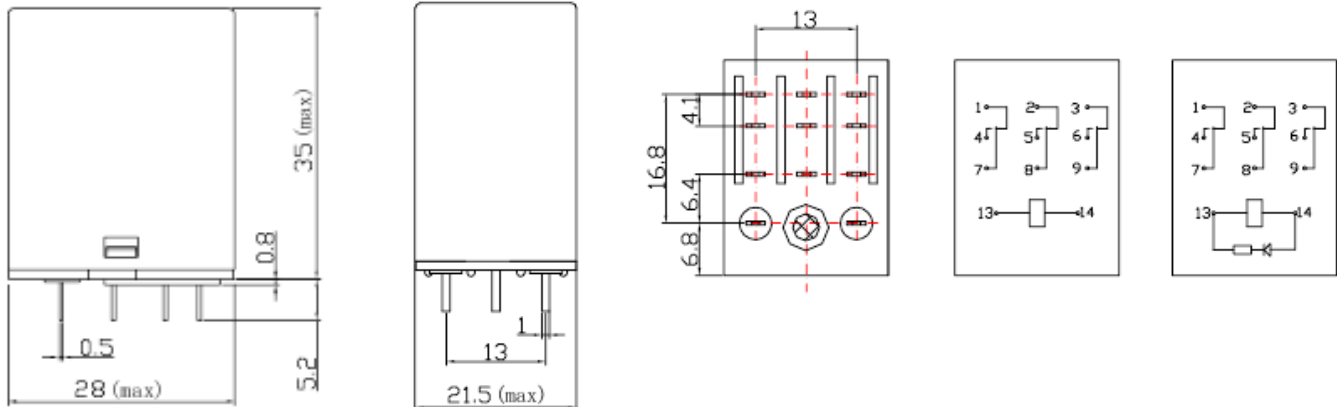
6. DIMENSIONS (Unit: mm)

Outline Dimensions

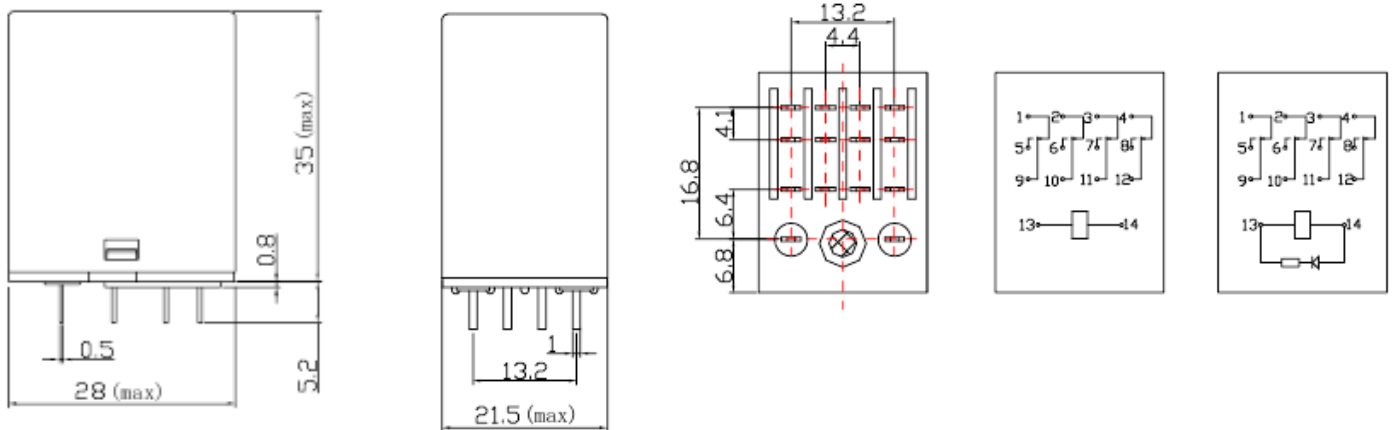
PC board (2 Form C)



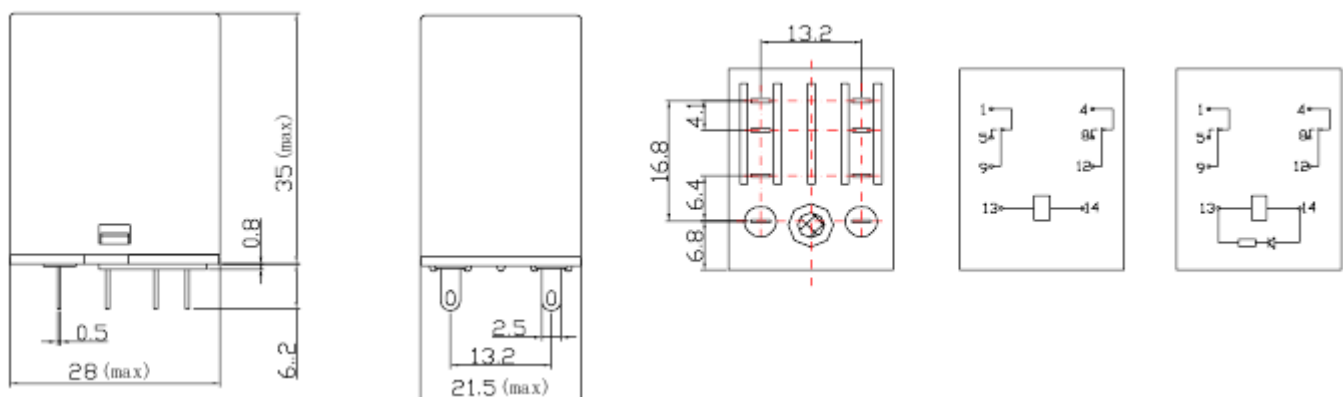
PC board (3 Form C)



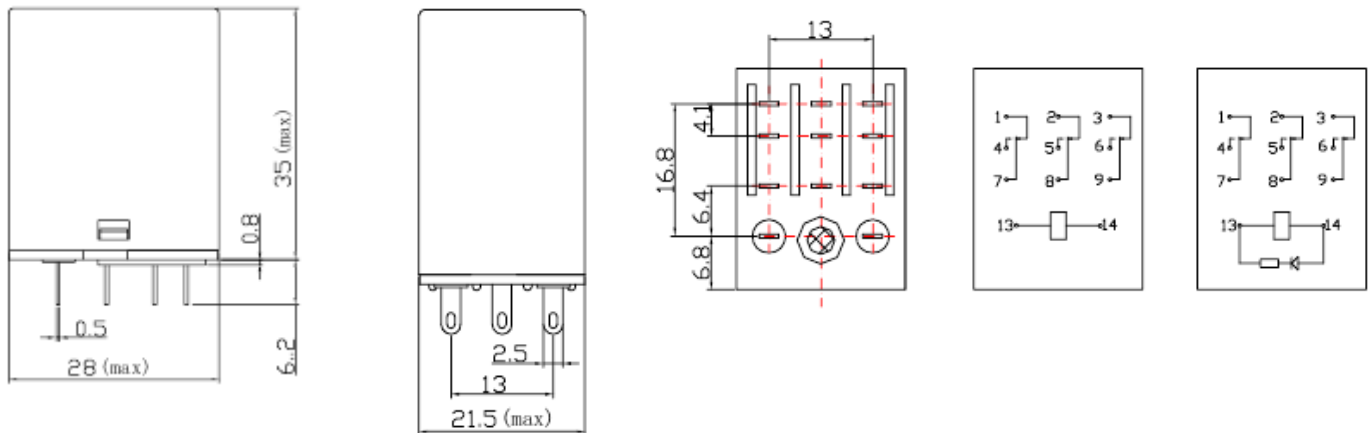
PC board (4 Form C)



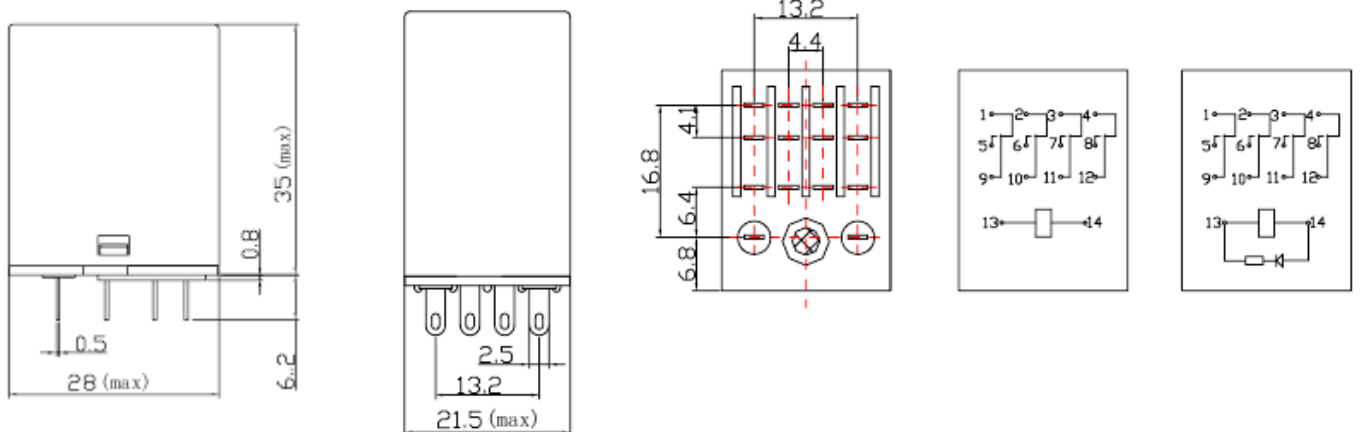
Plug-in (2 Form C)



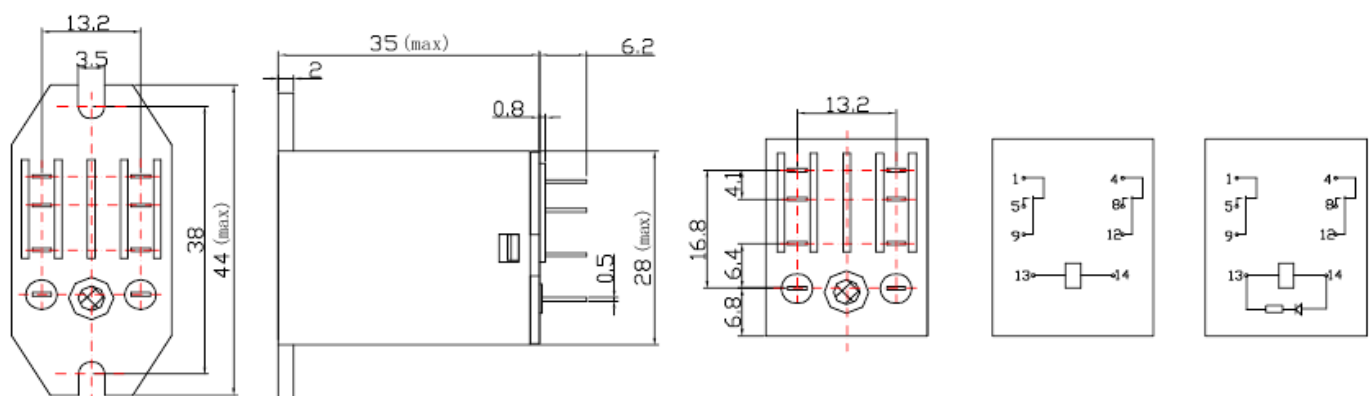
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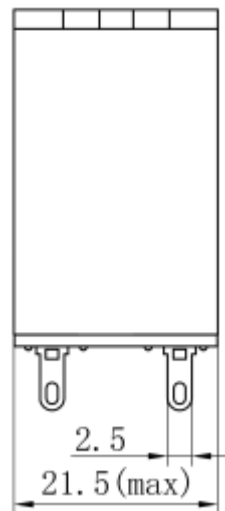
Plug-in (4 Form C)



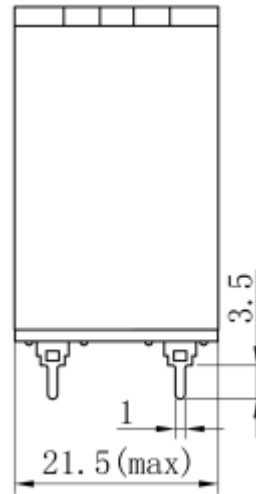
Flange mounting (2 Form C)



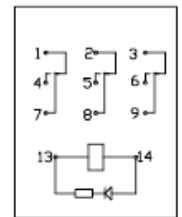
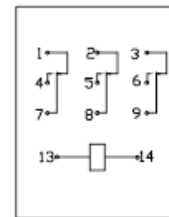
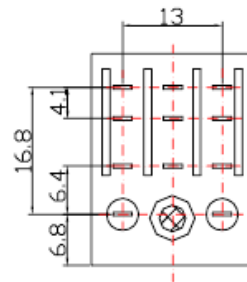
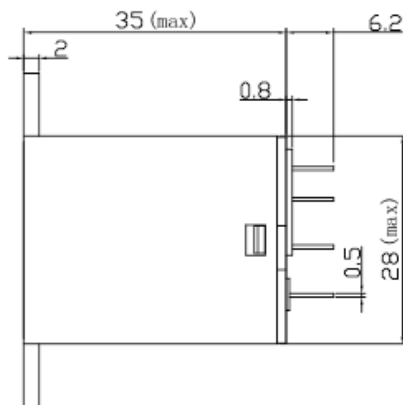
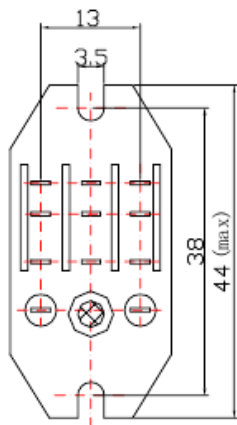
Plug-in



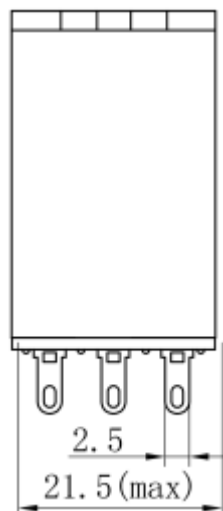
PC board



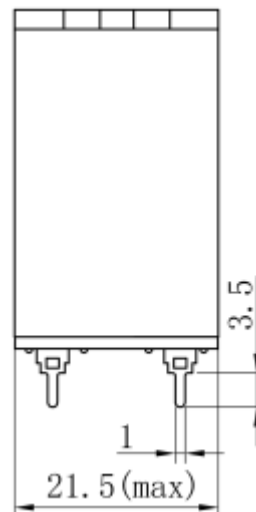
Flange mounting (3 Form C)



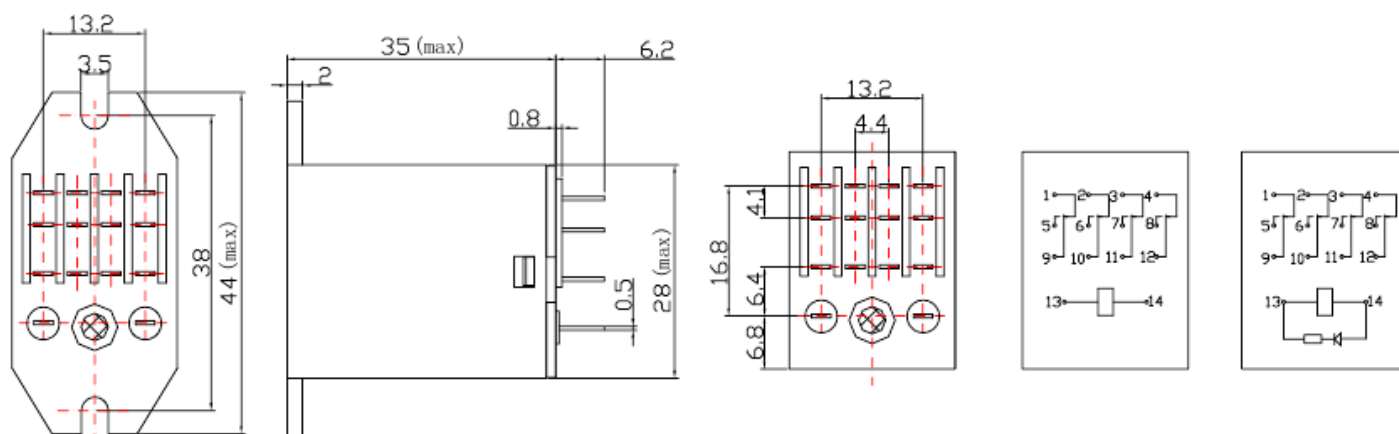
Plug-in



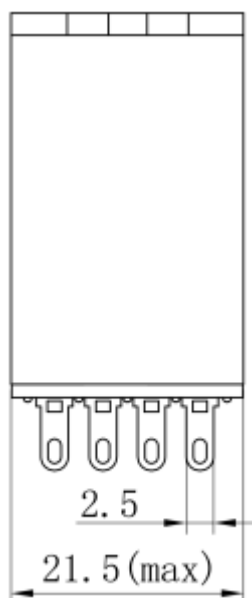
PC board



Flange mounting (4 Form C)



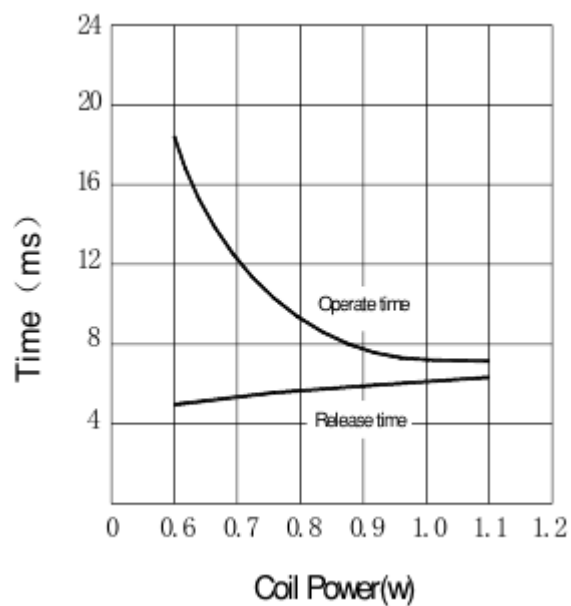
Plug-in



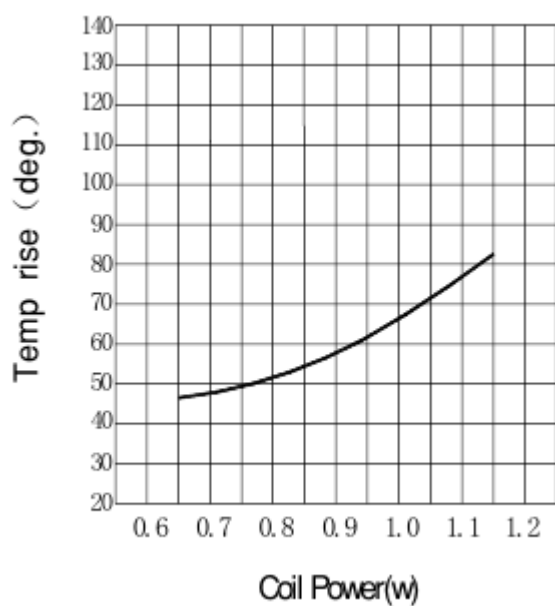
- Remark:**
- 1) In case of no tolerance shown in outline dimension: outline dimension $\leq 1\text{mm}$, tolerance should be $\pm 0.2\text{mm}$; outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, tolerance should be $\pm 0.3\text{mm}$; outline dimension $> 5\text{mm}$, tolerance should be $\pm 0.4\text{mm}$.
 - 2) The tolerance without indicating for PCB layout is always $\pm 0.1\text{mm}$.
 - 3) The additional tin top is max. 1mm.

7. CHARACTERISTIC CURVES

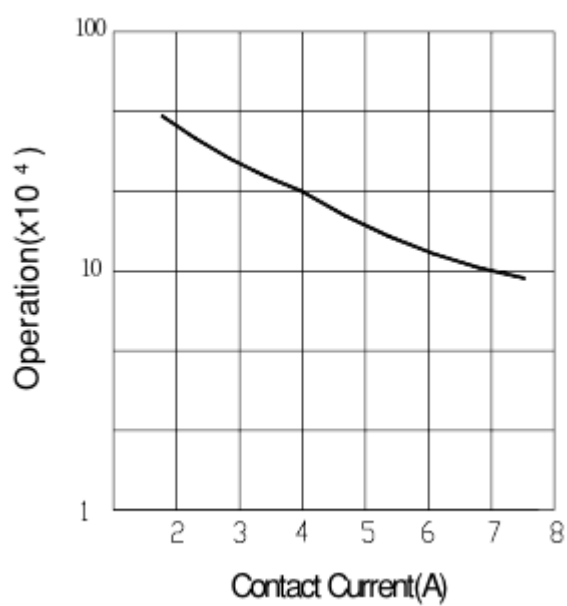
Timing



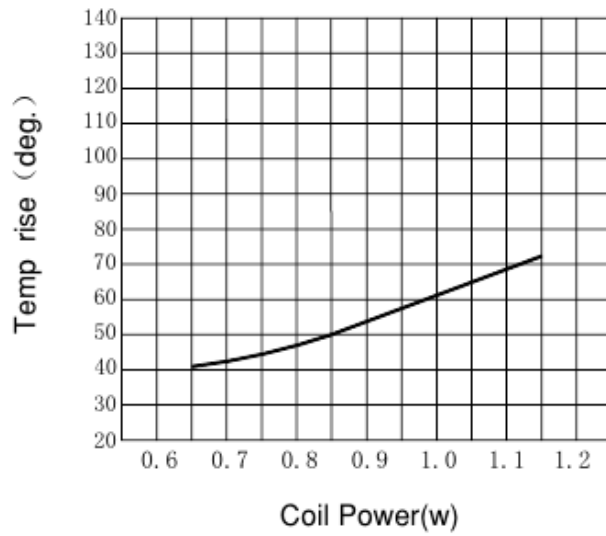
Coil Temperature Rise (2 Form C, 3 Form C)



Life Curves (2 Form C, 3 Form C)



Coil Temperature Rise (4 Form C)



Life Curves (4 Form C)

