

**A2 Series**

**5A MINIATURE POWER RELAY**

**FEATURES**

- Outline dimension (20.0mm×10.0mm×15.2mm)
- 1 Form A (SPST) or 1 Form C (SPDT) contact arrangement
- Designed to meet cULus, TUV, CQC requirements
- 4,000VAC dielectric strenght between coil and contact
- RoHS compliance
- Class F type
- REACH SvHC compliance
- Halogen-Free type available Glow
- Glow wire type

**APPLICATION**

Air Conditioner, Washing Machine, Microwave Oven,  
Power Meter, Industrial Control

**COIL PARAMETER**

Coil voltage	3-48VDC	
Coil power	Sensitive	200mW
	Standard	400mW
	Low Power	150mW

**COIL DATA @23°C**

A2-LA2/LC2/LA2H/LC2H(200mW)				
Nominal coil voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω)±10%	Operate Voltage (VDC Max.)	Release Voltage (VDC Min.)
3	66.7	45	2.25	0.15
5	40.0	125	3.75	0.25
6	33.3	180	4.50	0.30
9	22.5	400	6.75	0.45
12	16.7	720	9.00	0.60
18	11.1	1620	13.50	0.90
24	8.6	2880	18.00	1.20

A2-DA2/DC2/DA2H/DC2H(400mW)				
Nominal coil voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω)±10%	Operate Voltage (VDC Max.)	Release Voltage (VDC Min.)
3	133.3	22.5	2.25	0.15
5	79.4	63	3.75	0.25
6	66.7	90	4.50	0.30
9	44.4	202.5	6.75	0.45
12	33.3	360	9.00	0.60
18	22.2	810	15.50	0.90
24	16.7	1440	18.00	1.20
48	8.3	5760	36.00	2.40

A2-HA2/HC2(150mW)				
Nominal coil voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω)±10%	Operate Voltage (VDC Max.)	Release Voltage (VDC Min.)
6	25.0	240	4.50	0.30
9	16.6	540	6.75	0.45
12	12.5	960	9.00	0.60
24	6.25	3840.0	18.00	1.20

- UL File NO. E341422
- TUV File NO. R50191466
- CQC File NO. CQC10002051602



**CONTACT DATA**

Contact arrangement	1 Form A (SPST) / 1 Form C (SPDT)		
Contact material	Ag Alloy		
Initial contact resistance	100mΩ max.@6VDC,1A		
Max. switching voltage	277VAC/30V DC		
Max. switching current	7A(NO) / 5A(NC)		
Max. switching power	1939VA/210W(NO)		
	1385VA/150W(NC)		
Contact rating (Resistive Load)	Form A	DA2/LA2/HA2	10A@125VAC
		LA2	5A@250VAC/277VAC
			5A@30VDC
			10A /277VAC make 0A, Carry10A, break5A(10000cycles )
		10A /30VDC make 0A, Carry10A, break5A(10000cycles )	
	DA2H/LA2H	7A @ 250VAC/277VAC	
	Form C	DC2/LC2/HC2	5A(NO)/3A(NC)@ 250VAC/277VAC
			5A(NO)/3A(NC)@30VDC
		DC2H/LC2H	7A(NO)/5A(NC)@ 250VAC/277VAC
			7A (NO)/5A(NC) @ 30VDC
10A /277VAC make 0A, Carry10A, break5A(10000cycles )			
LC2(NO)	10A /30VDC make 0A, Carry10A, break5A(10000cycles )		
	10A /30VDC make 0A, Carry10A, break5A(10000cycles )		
Mechanical endurance	10,000,000 ops Min.(no load)		
Electrical endurance	100,000 ops Min.(rated load)		
Minimum load(reference value)	100mA@5VDC		

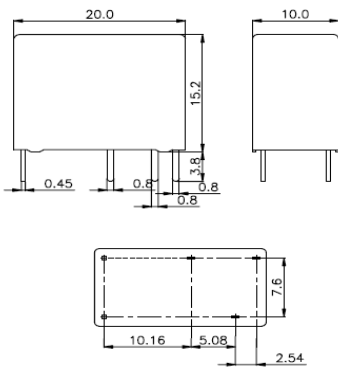
**CHARACTERISTICS**

Operate voltage	75% of nominal voltage or less	
Release voltage	5% of nominal voltage or more	
Operate time (At nominal voltage)	Sensitive Coil	15ms max.
	Standard Coil	10ms max.
Release time(At nominal voltage)	5ms max.	
Insulation resistance	1,000 MΩ min. (at 500 VDC)	
Dielectric strength	Between coil and contacts	4,000 VAC, 50/60 Hz for 1 min
	Between open contacts	1,000 VAC, 50/60 Hz for 1 min
Surge voltage between coil and contacts	8,000V(1.2/50μs)	
Vibration resistance	Destruction	10 to 55 Hz., 1.5mm double amplitude
	Malfuction	10 to 55 Hz., 1.5mm double amplitude
Shock resistance	Destruction	1,000 m/s <sup>2</sup> (100G approximately )
	Malfuction	100 m/s <sup>2</sup> (10G approximately)
Ambient temperature	Operating: -40~+85°C (without icing or condensation)	
Ambient humidity	Operating: 20% to 85% RH	
Terminal	PCB terminals	
Enclosure (94V-0 Flammability Ratings)	V: Vented(Flux-tight, RTII)	
	S: Sealed(Wash-tight, RTIII)	
Weight	Approx. 7g	

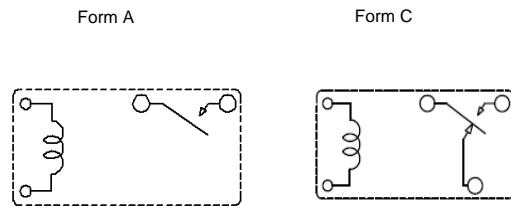
**ORDERING INFORMATION**

	A2	-V	-1	12	D	A	2	H	'000
<b>1. Product Family</b>									
<b>2. Enclosure</b> V=Vented(Flux-tight, RTII) S=Sealed(Wash-tight, RTIII)									
<b>3. Number of Poles</b> 1=1 pole									
<b>4. Rated Coil Voltage</b> 03=3VDC 05=5VDC 06=6VDC 09=9VDC 12=12VDC 18=18VDC 24=24VDC 48=48VDC									
<b>5. Coil Power</b> D = 400mW H = 150mW L = 200mW									
<b>6. Contact Arrangement</b> A = Form A(SPST) C = Form A(SPDT)									
<b>7. Contact Arrangement</b> 2 =AgSnO									
<b>8. Insulation System Designation</b> Blank=Standard(NO:5A,NC 3A), H=High capacity type(NO:7A,NC:5A)									
<b>9. Additional numbers and /or letters</b> 000-999, AAA-ZZZ, aaa-zzz or blank, which does not represent electrical changes, only for specific customer requirements									

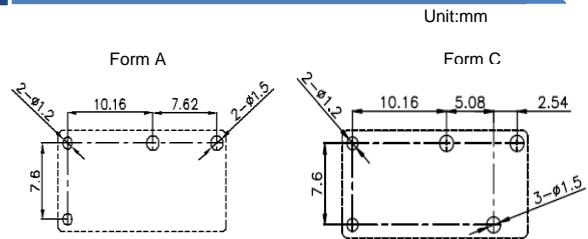
**OUTLINE DIMENSION**



**WIRING DIAGRAMS (BOTTOM VIEWS)**



**PC BOARD LAYOUTS (BOTTOM VIEWS)**



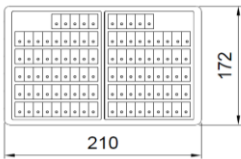
**Remark:** 1)The reference tolerance in outline dimension:  
outline dimension  $\leq 1$ mm, reference tolerance is  $\pm 0.2$ mm;  
outline dimension  $> 1$ mm and  $\leq 5$ mm, reference tolerance is  $\pm 0.3$ mm;  
outline dimension  $> 5$ mm, reference tolerance is  $\pm 0.5$ mm.  
2)The reference tolerance for PC Board layout is  $\pm 0.1$ mm.

**Typical products**

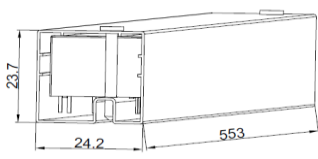
Product Description		Characteristic							
Product Name	Code	Coil Rated	Contact	Contact Load	Electrical	Safety certification	Glow	Anti-explosion	Special
A2-V-1**DA2	000	3V,5V,6V,9V .12V,18V,24 V,48V	AgSnOInO	10A @125VAC 5A @ 250VAC	100000ops.min	UL/cUL,TUV,CQC			
A2-S-1**DA2	000								
	600								
A2-V-1**LA2	000								
A2-S-1**LA2	000								
	600								
A2-V-1**DC2	000								
	000								
A2-S-1**DC2	100								
	600								
	F600								
A2-V-1**LC2	000								
A2-S-1**LC2	000								
	701								
A2-V-1**HA2	000								
A2-S-1**HA2	000								
A2-V-1**HC2	000								
A2-S-1**HC2	000								
A2-V-1**DA2H	000								
A2-S-1**DA2H	000								
A2-S-1**LA2H	000								
A2-S-1**LA2H	000								
A2-V-1**DC2H	300								
A2-S-1**DC2H	300								
A2-S-1**LC2H	300								
A2-S-1**LC2H	300								

Remarks: Special ordering for other requirements

**Packaging Figure**



100 pcs inside a box  
1000pcs inside a carton



50 pcs inside a tube  
2000 pcs inside a carton