

A1 Series

3~10A MINIATURE POWER RELAY

FEATURES

- Outline dimension (18.2mm×10.2mm×14.9mm)
- 1 Form A (SPST) contact arrangement
- Designed to meet cULus,TUV,CQC requirements
- 4,000VAC dielectric strength between coil and contact
- Sensitive and standard coils available
- RoHS compliance
- REACH SvHC compliance
- Halogen-Free type available Glow
- Glow wire type

APPLICATION

Industrial Control Appliances

COIL PARAMETER

Coil voltage	3-48VDC	
Coil power	A1-LA/IA	200mW
	A1-DA/HA	450mW

COIL DATA @23°C

A1-LA/IA/IA2/IA2F(200mW).Sensitive				
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	1,620	13.50	0.90
24	8.6	2,880	18.00	1.20

A1-DA/HA/HA2/HA2F(450mW).Standard				
Nominal coil voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω)±10%	Operate Voltage (VDC Max.)	Release Voltage (VDC Min.)
3	150.0	20	2.25	0.15
5	90.9	55	3.75	0.25
6	75.0	80	4.50	0.30
9	50.0	180	6.75	0.45
12	37.5	320	9.00	0.60
18	25.0	720	15.5	0.90
24	18.0	1,280	18.00	1.20
48	9.4	5,100	36.00	2.40



File NO. E341422



File NO. R50174892



File NO. CQC10002043606

CONTACT DATA

Contact arrangement	1 Form A (SPST)	
Contact material	Ag Alloy	
Initial contact resistance	100mΩ max.@6VDC,1A	
Max. switching voltage	250VAC/30VDC	
Max. switching current	3A(LA)/5A(DA)/8A(IA)/10A(HA)	
Max. switching power	750VA/90W(LA)	1250VA/150W(DA)
	2000VA/240W(IA)	2500VA/300W(HA)
Contact rating (Resistive Load)	A1-LA:	3A @ 250VAC
		3A @ 30VDC
	A1-DA:	5A @ 250VAC
		5A @ 30VDC
	A1-IA/IA2:	8A @ 250VAC
		8A @ 30VDC
	A1-HA/HA2:	10A @ 250VAC
		10A @ 30VDC
Mechanical endurance	10,000,000 ops Min.(no load)	
Electrical endurance	100,000 ops Min(rated load)	
Minimum load (reference value)	100mA@5VDC	

CHARACTERISTICS

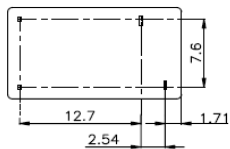
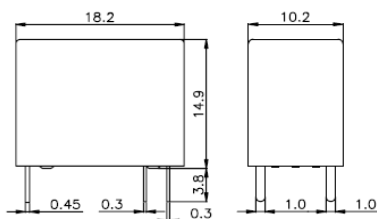
Operate voltage	75% of nominal voltage or less	
Release voltage	5% of nominal voltage or more	
Operate time (At nominal voltage)	A1-LA/IA/IA2/IA2F	15ms max.
	A1-DA/HA/HA2/HA2F	10ms max.
Release time(At nominal voltage)	4ms max.	
Insulation resistance	1,000 MΩ min. (at 500 VDC)	
Dielectric strength	Between coil and contact	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	10,000V(1.2/50μs)	
Vibration resistance	Destruction	10 to 55 Hz, 1.5mm double amplitude
	Malfunction	10 to 55 Hz, 1.5mm double amplitude
Shock resistance	Destruction	1,000 m/s ² (100G approximately)
	Malfunction	100 m/s ² (10G approximately)
Ambient temperature	Operating: -30~+85°C or 105°C(H) (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. 6g	



ORDERING INFORMATION

	A1	-V	-1	12	H	A	2	F	,000
1.Product Family									
2.Enclosure									
V=Vented(Flux-tight, RTII) S=Sealed(Wash-tight, RTIII)									
3.Number of Poles									
1=1 pole									
4.Rated Coil Voltage									
03,05,06,09,12,18,24,48VDC									
5.Coil Power									
L&I =Sensitive(200mW) D&H =Standard(450mW)									
6.Contact Arrangement									
A = Form A(SPST)									
7.Contact Material									
Nil & 2=AgSnO ₂									
8.Insulation System									
Blank & F = Class(155°C)									
9.Additional numbers and /or letters									
000-999, AAA-ZZZ, aaa-zzz or blank, which does not represent electrical changes, only for specific customer requirements									

OUTLINE DIMENSION



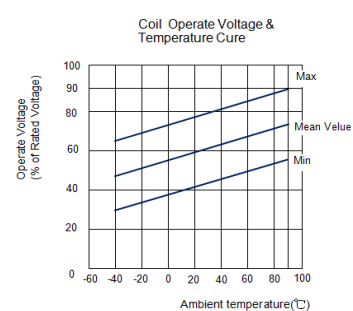
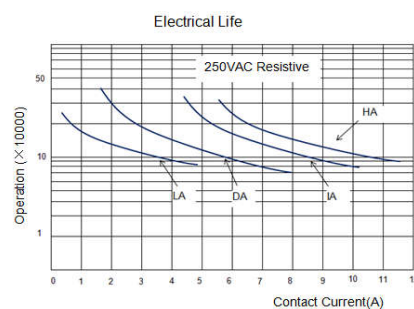
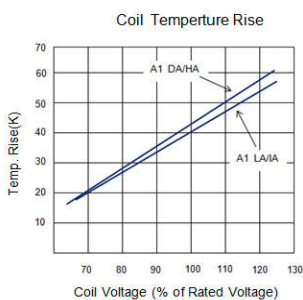
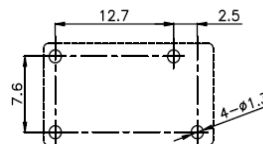
Remarks:

- The reference tolerance in outline dimension:
outline dimension $\leq 1\text{mm}$, reference tolerance is $\pm 0.2\text{mm}$;
outline dimension $> 1\text{mm}$ and $\leq 5\text{mm}$, reference tolerance is $\pm 0.3\text{mm}$;
outline dimension $> 5\text{mm}$, reference tolerance is $\pm 0.5\text{mm}$.
- The reference tolerance for PC Board layout is $\pm 0.1\text{mm}$.

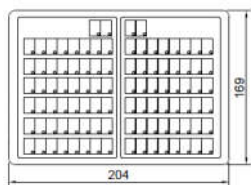
WIRING DIAGRAMS (BOTTOM VIEWS)



PC BOARD LAYOUTS (BOTTOM VIEWS)

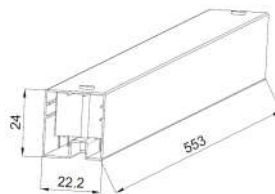


1.BOX



100 pcs inside a box
1000pcs inside a carton

2.TUBE



50 pcs inside a tube
2000 pcs inside a carton

Disclaimer:

The specification is for reference only, if you need more detail information, please contact Churod. We could not evaluate all the performance and all parameters for every possible application. And the user should be in a right position to choose the suitable product for their own application. If there is any new need, please contact Churod for the technical service.

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