

Main Feature

1. AZ Relay Performs high reliability in dry circuit.
2. High density design is available on P.C. Board with size of 15.4x10.4x11.7 mm and the weight of 3.5 grams.
3. The Employment of 2.54mm terminal pitch is equal to I.C.'s terminal pitch.
4. The low power consumption of AZ-L type and general power consumption type of AZ-D are prepared for user's wide selection.
5. Complete protective construction is designed from dust and soldering flux. In addition, the plastic sealed type is prepared for washing procedure.

Contact Rating

Load Type	AZ (DM/LM)	AZ (D/L)
Rated Load (Resistive)	1A 120VAC	1A 120VAC
	1A 24VDC	1A 24VDC
Rated Carrying Current	1A	1A
Max. Allowable Voltage	AC 120V	AC 120V
	DC 60V	DC 60V
Max. Allowable Current	1A	1A
Max. Allowable Power Force	120VA	120VA
	24W	24W
Min. Switching Load	DC 1V, 1mA	DC 1V, 1mA
Contact Material	Ag Alloy	Ag Alloy
Contact Form	SPST	SPDT

Application

Telecommunication, Domestic Appliances, Office Machine, Audio Equipment, etc.

Performance (at Initial Value)

- Contact Resistance 100mΩ Max. @100mA, 6VDC
- Operate Time..... 5 mSec. Max. (D Type)
10 mSec. Max. (L Type)
- Release Time 4 mSec. Max.
- Dielectric Strength :
Between Coil & Contact 500VAC at 50/60 Hz for one minute.
Between Contacts 500VAC at 50/60 Hz for one minute.
- Surge Strength 1,000V (between coil & contact 1.2x50μSec.)
- Insulation Resistance 100 Mega Ω Min. at 500VDC.
- Max. On/Off Switching :
Electrical 30 Cycles per Minute.
Mechanical 300 Cycles per Minute.
- Temperature Range -30~55°C (D Type)
-30~75°C (L Type)
- Humidity Range 45~85% RH.
- Coil Temperature Rise 43°C Max. (D Type)
25°C Max. (L Type)
- Vibration :
Endurance 10 to 55 Hz dual amplitude width 1.5mm.
Error Operation..... 10 to 55 Hz dual amplitude width 1.5mm.
- Shock :
Endurance 500 m/S².
Error Operation..... 100 m/S².
- Life Expectancy :
Mechanical 10⁷ Operations at No Load condition.
Electrical 10⁵ Operations at Rated Resistive Load.
- Weight..... About 3.5 g.

Safety Standard & Its File Number

- UL & C-UL E141060
- CQC..... 06001015415

Coil Specification (at 20°C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
AZ-D	3	150	20	Abt. 0.45	70% Maximum	5% Minimum	130%
	5	89	56				
	6	75	80				
	9	50	180				
	12	37.5	320				
	24	18.8	1,280				
AZ-L	3	66.7	45	Abt. 0.20	75% Maximum	5% Minimum	130%
	5	40	125				
	6	33.3	180				
	9	22.5	400				
	12	17	700				
	24	8.6	2,800				

Ordering Information

AZ - SS - 1 12 D M

Contact Form:

Nil: One Form C

M: One Form A

Coil Type:

D: Standard DC Coil

L: High Sensitivity DC Coil

Coil Voltage:

03: 3V, 05: 5V, 06: 6V, 09: 9V, 12: 12V, 24: 24V

Number of Pole:

1: One Pole

Type of Sealing:

SS: RT II Flux Proofed Relays

SH: RT III Wash Tight Relays

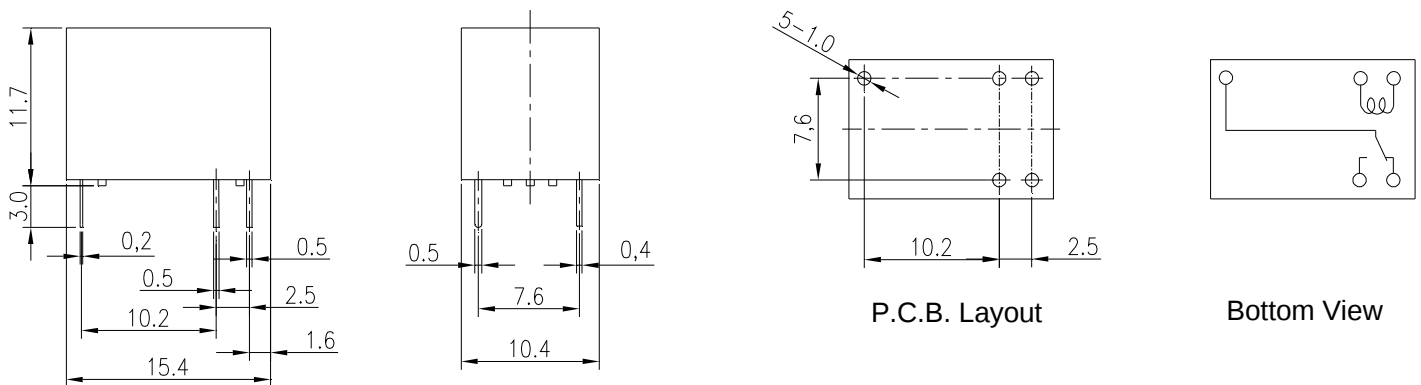
Type:

AZ

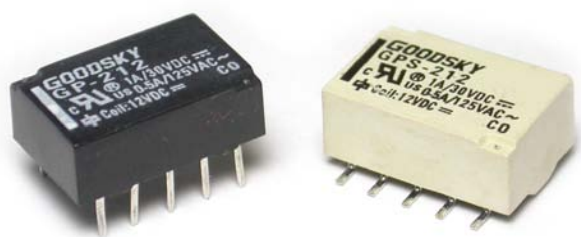
Classification

Model	AZ			
Coil Sensitivity	Standard Type		High Sensitivity Type	
Contact Form	1C	1A	1C	1A
Flow Solder Type	AZ-SS-1□□D	AZ-SS-1□□DM	AZ-SS-1□□L	AZ-SS-1□□LM
Plastic Sealed Type	AZ-SH-1□□D	AZ-SH-1□□DM	AZ-SH-1□□L	AZ-SH-1□□LM

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)



Main Feature



1. Double-In-Line pitch terminals high sensitivity: 0.14W or 0.10W nominal power.
2. Conforms to FCC Part 68 1.5kV surge and dielectric 1,000VAC.
3. Monostable or Bistable relays of single coil magnet latching type available.



Contact Rating

Load Type	GP	GPS
Rated Load (Resistive)	0.5A 125VAC	0.5A 125VAC
	1A 30VDC	1A 30VDC
Rated Carrying Current	1A	1A
Max. Allowable Voltage	DC 30V	DC 30V
	AC 125V	AC 125V
Max. Allowable Current	1A	1A
Max. Allowable Power Force	62.5VA	62.5VA
	30W	30W
Min. Switching Load	DC 10mV, 1mA	DC 10mV, 1mA
Contact Material	Ag Alloy	Ag Alloy
Contact Form	DPDT	DPDT

Application

Application for Telecommunication Equipment, Office Equipment, Security Alarm Systems, Measuring instruments, Medical Monitoring Equipment, Audio Visual Equipment, Flight Simulator, Sensor Control.

Performance (at Initial Value)

- Contact Resistance 50 mΩ Max. @ 100mA, 6VDC
- Operate Time..... 3 mSec. Max.
- Release Time..... 3 mSec. Max.
- Dielectric Strength :
Between Coil & Contact 1,000VAC at 50/60 Hz for one minute.
- Between Contacts 1,000VAC at 50/60 Hz for one minute.
- Between Contact Poles 1,000VAC at 50/60 Hz for one minute.
- Surge Strength 1,500V (between coil & contact 1x40 μ Sec.)
- Insulation Resistance 100Mega Ω min. at 500VDC
- Max. On/Off Switching :
Electrical 6 Cycles per Minute.
- Mechanical 300 Cycles per Minute.
- Temperature Range..... -40~70°C

- Humidity Range45~85% RH.
- Coil Temperature Rise50°C Max.
- Vibration:
Endurance.....10 to 55 Hz dual amplitude width 1.5mm.
- Error Operation10 to 55 Hz dual amplitude width 1.5mm.
- Shock:
Endurance.....1,000 m/S².
- Error Operation100 m/S².
- Life Expectancy :
Mechanical.....10⁸Operations at No Load condition.
- Electrical.....1A/30VDC: 2x10⁵
0.5A/125VAC: 1x10⁵
Operations at Rated Resistive Load.
- WeightAbout 1.5 g.

Safety Standard & Its File Number

- C-ULE141060

Coil Specification (at 20 °C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
GP/GPS (Single Side Stable)	3	46.7	64.3	0.14	75% Maximum.	10% Minimum.	150%
	4.5	31.1	145				
	5	28.0	178				
	6	23.3	257				
	9	15.5	579				
	12	11.7	1,028				
	24	8.3	2,880	0.2			
Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (W)	Set Voltage (VDC)	Reset Voltage (VDC)	
GP/GPS (1Coil Latching)	3	33.3	90	0.1	75% Maximum.	-75% Maximum.	
	4.5	22.2	203				
	5	20.0	250				
	6	16.7	360				
	9	11.1	810				
	12	8.3	1,440				
	24	6.3	3,840	0.15			

Ordering Information

GP - L - 2 12

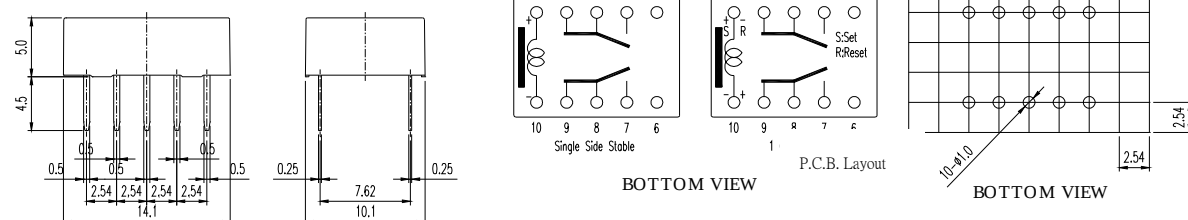
Coil Voltage: 03: 3V, 4.5: 4.5V, 05: 5V, 06: 6V, 09: 9V, 12: 12V, 24: 24V
 Number of Pole: 2: Two Poles
 Coil Type: Nil: Single Side Stable
 L: 1 Coil Latching
 Type: GP: (PCB Terminal)
 GPS: (SMD Terminal)

Classification

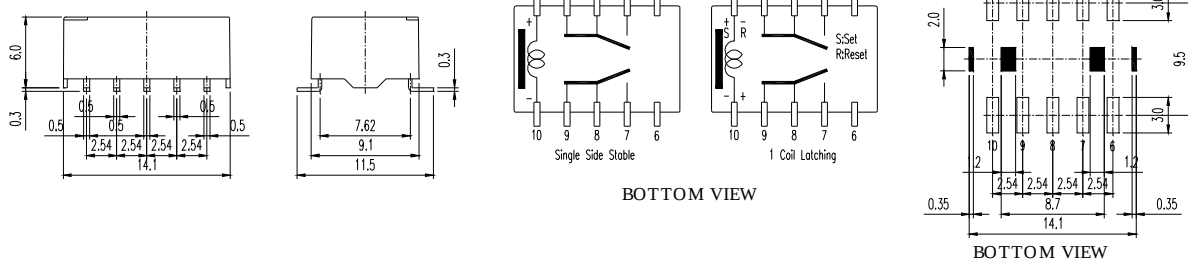
Model	GP / GPS	
Contact Material	AgPd (Gold clad)	
Coil Type	Single Side Stable	1 Coil Latching
Ordering Type	GP/GPS-2□□	GP/GPS-L-2□□

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

GP



GPS





Main Feature

1. 92/8 gold silver alloy on silver palladium contact type is suitable for low level switching application.
2. Small size and light weight can provide high density Board mounting.
3. 2.54mm Terminal Pitch.
4. Low Coil Power Consumption of GS-T Type and high Coil Power Consumption of GS-D type are available to meet user's selection.
5. Employment of suitable plastic materials to be applied to high temperature and various chemical solution.
6. Plastic epoxy resin sealed type for washing procedure.

Contact Rating

Load Type	GS (D)	GS (L)	GS (T)
Rated Load (Resistive)	1A 120VAC	1A 120VAC	1A 120VAC
	2A 24VDC	2A 24VDC	2A 24VDC
Rated Carrying Current	2A	2A	2A
Max. Allowable Voltage	AC 120V	AC 120V	AC 120V
	DC 24V	DC 24V	DC 24V
Max. Allowable Current	2A	2A	2A
Max. Allowable Power Force	120VA	120VA	120VA
	48W	48W	48W
Min. Switching Load	DC 1V, 1mA	DC 1V, 1mA	DC 1V, 1mA
Contact Material	Ag Alloy	Ag Alloy	Ag Alloy
Contact Form	DPDT	DPDT	DPDT

Application

Telecommunication, domestic appliances, office machine, audio equipment, Remote Control, etc

Performance (at Initial Value)

- Contact Resistance 100mΩ Max.@100mA, 6VDC
- Operate Time..... GS-D 6 mSec. Max.
GS-T 8 mSec. Max
- Release Time 4 mSec. Max.
- Dielectric Strength :
Between Coil & Contact 1,000VAC at 50/60 Hz for one minute.
Between Contacts 500VAC at 50/60 Hz for one minute.
- Surge Strength 1,500V (between coil & contact 1.2x50μSec.)
- Insulation Resistance 100 MegaΩ Min. at 500VDC.
- Max. On/Off Switching :
Electrical..... 30 Cycles per Minute.
Mechanical 300 Cycles per Minute.

- Temperature Range-30~80°C
- Humidity Range45~85% RH.
- Coil Temperature Rise25°C Max. (D Type)
20°C Max. (T Type)
- Vibration:
Endurance.....10 to 55 Hz dual amplitude width 1.5mm.
Error Operation10 to 55 Hz dual amplitude width 1.5mm.
- Shock:
Endurance1,000 m/S² .
Error Operation100 m/S² .
- Life Expectancy:
Mechanical10⁷ Operations at No Load condition.
Electrical10⁵ Operations at Rated Resistive Load.
- Weight.....About 4.8 g.

Safety Standard & Its File Number

- C-UL.....E141060
- TÜVR9352326
- CQC.....06001015414

Coil Specification (at 20°C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
GS - D	3	120	25	Abt. 0.36	75% Maximum	10% Minimum	150%
	5	71.4	70				
	6	60.0	100				
	9	40.0	225				
	12	30.0	400				
	24	15.0	1,600				
GS - T	3	66.7	45	Abt. 0.20	75% Maximum	10% Minimum	150%
	5	40.0	125				
	6	33.3	180				
	9	22.2	405				
	12	16.7	720				
	24	8.3	2,880				
GS - L	3	50.0	60	Abt. 0.15	80%	10%	150%
	5	30.0	167				
	6	25.0	240				
	9	16.7	540				
	12	12.5	960				

Ordering Information

GS - SH - 2 12 D

Coil Sensitivity:

D: 0.36W

T: 0.2W

L: 0.15W

Coil Voltage: 03: 3V, 05: 5V, 06: 6V, 09: 9V, 12: 12V, 24: 24V

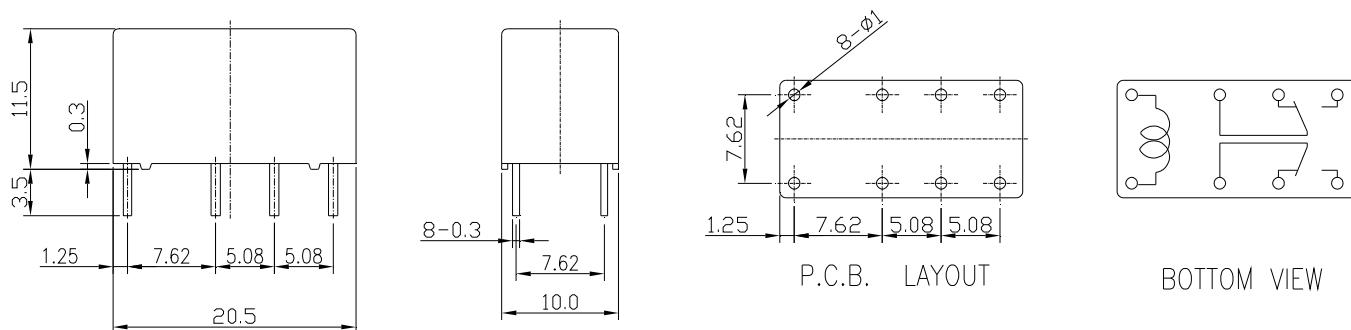
Number of Pole: 2: Two Poles

Type of Sealing: SH: RT III Wash Tight Relays

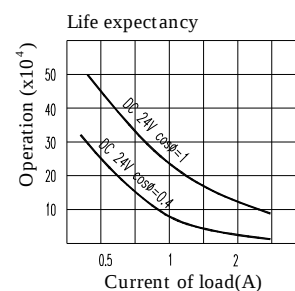
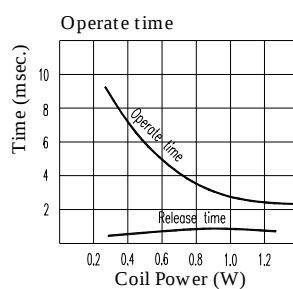
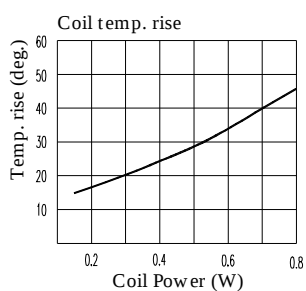
Type: GS

Classification

Model	GS		
Coil Sensitivity	Standard DC Coil	Middle Consumption DC Coil	High Sensitivity Type
Flow Solder Type	GS-SS-2□□D	GS-SS-2□□T	GS-SS-2□□L
Plastic Sealed Type	GS-SH-2□□D	GS-SH-2□□T	GS-SH-2□□L

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

Reference Data





Main Feature

1. 92/8 gold silver alloy on silver palladium contact type is suitable for low level switching application.
2. Small size and light weight can provide high density Board mounting.
3. 2.54mm Terminal Pitch.
4. Low Coil Power Consumption of GS-T Type and high Coil Power Consumption of GS-D type are available to meet user's selection.
5. Employment of suitable plastic materials to be applied to high temperature and various chemical solution.
6. Plastic epoxy resin sealed type for washing procedure.

Contact Rating

Load Type	GS (D)	GS (L)	GS (T)
Rated Load (Resistive)	1A 120VAC	1A 120VAC	1A 120VAC
	2A 24VDC	2A 24VDC	2A 24VDC
Rated Carrying Current	2A	2A	2A
Max. Allowable Voltage	AC 120V	AC 120V	AC 120V
	DC 24V	DC 24V	DC 24V
Max. Allowable Current	2A	2A	2A
Max. Allowable Power Force	120VA	120VA	120VA
	48W	48W	48W
Min. Switching Load	DC 1V, 1mA	DC 1V, 1mA	DC 1V, 1mA
Contact Material	Ag Alloy	Ag Alloy	Ag Alloy
Contact Form	DPDT	DPDT	DPDT

Application

Telecommunication, domestic appliances, office machine, audio equipment, Remote Control, etc

Performance (at Initial Value)

- Contact Resistance 100mΩ Max.@100mA, 6VDC
- Operate Time..... GS-D 6 mSec. Max.
GS-T 8 mSec. Max
- Release Time 4 mSec. Max.
- Dielectric Strength :
Between Coil & Contact 1,000VAC at 50/60 Hz for one minute.
Between Contacts 500VAC at 50/60 Hz for one minute.
- Surge Strength 1,500V (between coil & contact 1.2x50μSec.)
- Insulation Resistance 100 MegaΩ Min. at 500VDC.
- Max. On/Off Switching :
Electrical..... 30 Cycles per Minute.
Mechanical 300 Cycles per Minute.

- Temperature Range-30~80°C
- Humidity Range45~85% RH.
- Coil Temperature Rise25°C Max. (D Type)
20°C Max. (T Type)
- Vibration:
Endurance.....10 to 55 Hz dual amplitude width 1.5mm.
Error Operation10 to 55 Hz dual amplitude width 1.5mm.
- Shock:
Endurance1,000 m/S² .
Error Operation100 m/S² .
- Life Expectancy:
Mechanical10⁷ Operations at No Load condition.
Electrical10⁵ Operations at Rated Resistive Load.
- Weight.....About 4.8 g.

Safety Standard & Its File Number

- C-UL.....E141060
- TÜVR9352326
- CQC.....06001015414

Coil Specification (at 20°C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
GS - D	3	120	25	Abt. 0.36	75% Maximum	10% Minimum	150%
	5	71.4	70				
	6	60.0	100				
	9	40.0	225				
	12	30.0	400				
	24	15.0	1,600				
GS - T	3	66.7	45	Abt. 0.20	75% Maximum	10% Minimum	150%
	5	40.0	125				
	6	33.3	180				
	9	22.2	405				
	12	16.7	720				
	24	8.3	2,880				
GS - L	3	50.0	60	Abt. 0.15	80%	10%	150%
	5	30.0	167				
	6	25.0	240				
	9	16.7	540				
	12	12.5	960				

Ordering Information

GS - SH - 2 12 D

Coil Sensitivity:

D: 0.36W

T: 0.2W

L: 0.15W

Coil Voltage: 03: 3V, 05: 5V, 06: 6V, 09: 9V, 12: 12V, 24: 24V

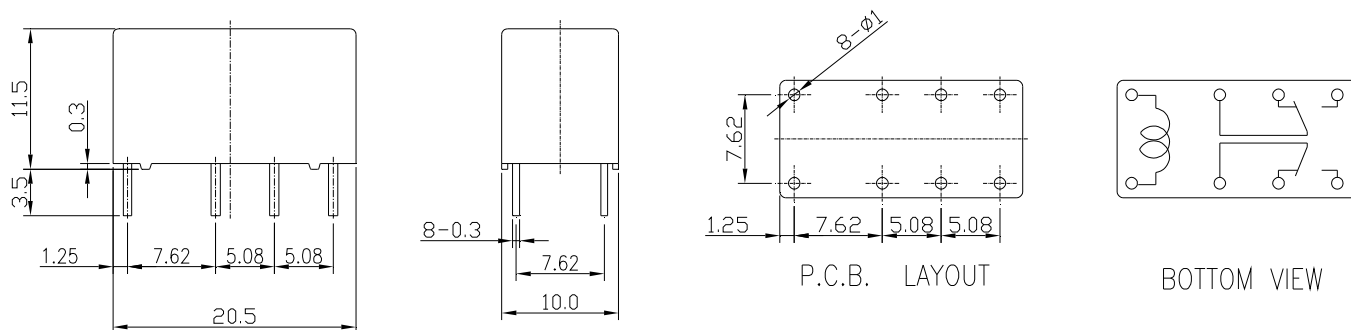
Number of Pole: 2: Two Poles

Type of Sealing: SH: RT III Wash Tight Relays

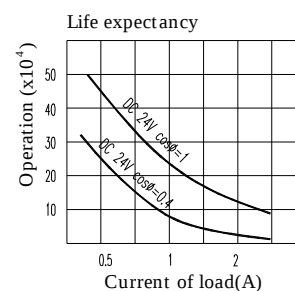
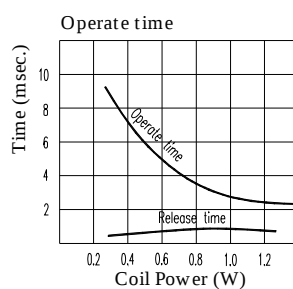
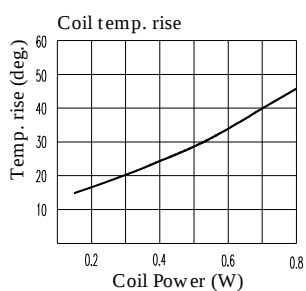
Type: GS

Classification

Model	GS		
Coil Sensitivity	Standard DC Coil	Middle Consumption DC Coil	High Sensitivity Type
Flow Solder Type	GS-SS-2□□D	GS-SS-2□□T	GS-SS-2□□L
Plastic Sealed Type	GS-SH-2□□D	GS-SH-2□□T	GS-SH-2□□L

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

Reference Data





Main Feature

1. Epoxy molded Dual-In-Line package.
2. Low profile, mounting space compatible with DIP IC.
3. Completely washable.
4. Provide high speed, miniature and cost effective switching solution.



Contact Rating

Load Type	DIR/DID	
Rated Load (Resistive)	0.5A 100VDC	0.2A 30VDC
Rated Carrying Current	0.5A	0.2A
Max. Allowable Voltage	100 VDC	30 VDC
Max. Allowable Current	0.5A	0.2A
Max. Allowable Power Force	10 VA	3 VA
Min. Switching Load	DC 1V, 1mA	DC 1V, 1mA
Contact Material	Ru Alloy	Ru Alloy
Contact Form	SPST/DPST	SPDT

Application:

Security system, Modem and other telecommunication products.

Performance (at Initial Value)

- Contact Resistance 150 mΩ Max. @ 100mA, 6VDC
- Operate Time 0.5 mSec. Max.
- Release Time 0.5 mSec. Max.
- Dielectric Strength:
 - Between Coil & Contact 1,400 VDC.
 - 4,000 VDC(4 Lead)
 - Between Contacts 200 VDC

- Insulation Resistance: 100 MΩ Minimum
- Temperature Range:
 - Operating -40~85 °C.
 - Storage -55~125 °C.
- Humidity Range 45~85% RH.
- Vibration 20 G.
- Shock 100 G.
- Life Expectancy:
 - Electrical 10⁸ Operations at ref. 10VDC, 10mA
- Weight About 1.8g

Safety Standard & Its File Number

- C-UL E141060.

Coil Specification (at 20 °C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (mW)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
DIR/DID	5	10	500	50	3.75	0.80	16
	12	12	1,000	144	9.00	1.00	20
	24	11	2,150	268	17.50	2.50	32

Ordering Information

DIR - S 4 - 1 05 A

Contact Form:

A: Make Contact Only
B: Break Contact Only
C: Change-Over Contacts

Coil Voltage:
Number of Pole:

05: 5V, **12:** 12V, **24:** 24V
1: One Pole
2: Two Poles

Lead Number:

4: 4 Leads
8: 8 Leads

Terminal shape:

S: Standard (DIP)
C: Lead 2 & 13 are connected (DIP)
M: Standard (SMD)
N: Lead 2 & 13 are connected (SMD)

Type:

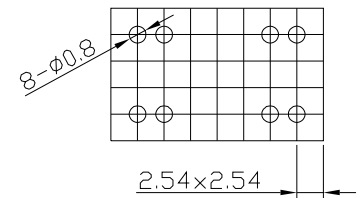
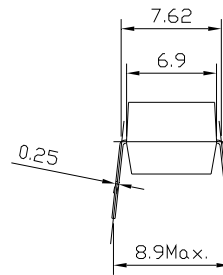
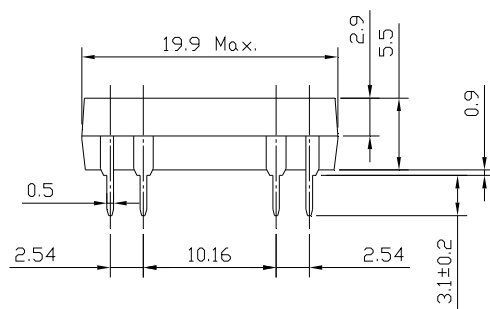
DIR: None Diode
DID: With Diode

Classification

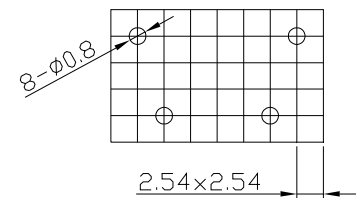
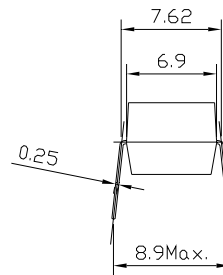
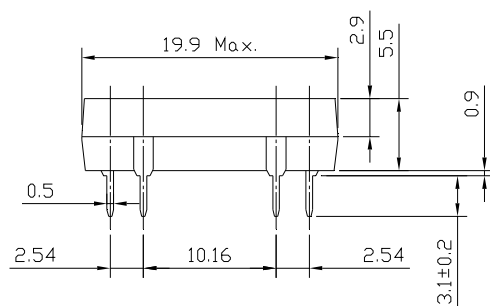
Model	DIR/DID							
Terminal shape	DIP				SMD			
Lead 2 & 13	Connected		Disconnected		Connected		Disconnected	
Lead Type	4 Leads	8 Leads	4 Leads	8 Leads	4 Leads	8 Leads	4 Leads	8 Leads
Contact Form	-	1A/1B/1C/2A	1A	1A/1B/1C/2A	-	1A/1B/1C/2A	1A/1B/1C/2A	1A/1B/1C/2A
Ordering Type	-	DIR-C8-1□□A	DIR-S4-1□□A	DIR-S8-1□□A	-	DIR-N8-1□□A	DIR-M4-1□□A	DIR-M8-1□□A
		DIR-C8-1□□B		DIR-S8-1□□B		DIR-N8-1□□B		DIR-M8-1□□B
		DIR-C8-1□□C		DIR-S8-1□□C		DIR-N8-1□□C		DIR-M8-1□□C
		DIR-C8-2□□A		DIR-S8-2□□A		DIR-N8-2□□A		DIR-M8-2□□A
		DID-C8-1□□A		DID-S8-1□□A		DID-N8-1□□A		DID-M8-1□□A
		DIR-C8-1□□C		DID-S8-1□□C		DID-N8-1□□C		DID-M8-1□□C
		DID-C8-2□□A		DID-S8-2□□A		DID-N8-2□□A		DID-M8-2□□A
		DID-C8-1□□B		DID-S8-1□□B		DID-N8-1□□B		DID-M8-2□□B

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

DIP

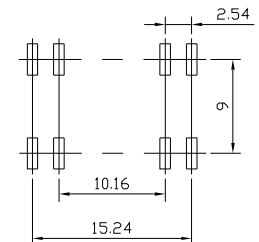
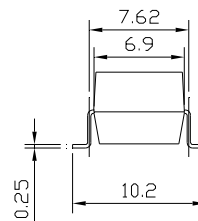
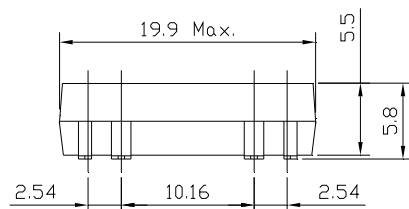


P.C.B. Layout

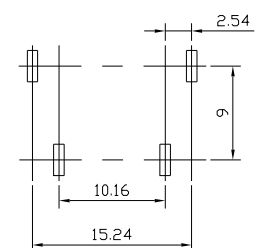
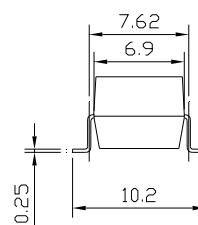
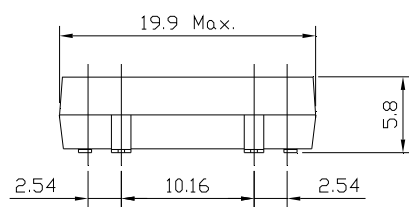


P.C.B. Layout

SMD

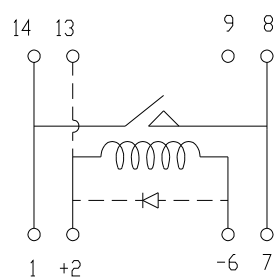


P.C.B. Layout

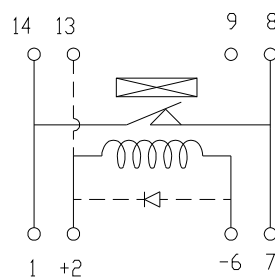


P.C.B. Layout

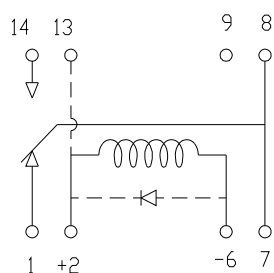
Wiring Diagram



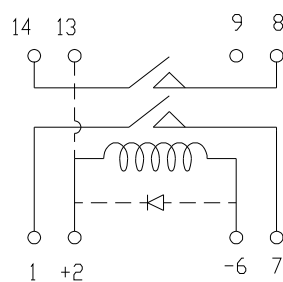
(1 form A)



(1 form B)



(1 form C)



(2 form A)



Main Feature

1. Epoxy molded Single-In-Line package.
2. Mounting space is less by half compared to Dual-In-Line package.
3. Completely washable.
4. Provide high speed, miniature and cost effective switching solution.

Contact Rating

Load Type	SIR/SID
Rated Load (Resistive)	0.5A 100VDC
Rated Carrying Current	0.5A
Max. Allowable Voltage	100 VDC
Max. Allowable Current	1A
Max. Allowable Power Force	10 VA
Min. Switching Load	DC 1V, 1mA
Contact Material	Ru Alloy
Contact Form	SPST

Application

Security system, Modem and other telecommunication products.

Performance (at Initial Value)

- Contact Resistance 150 mΩ Max. @100mA, 6VDC
- Operate Time 0.5 mSec. Max.
- Release Time 0.5 mSec. Max.
- Dielectric Strength:
 - Between Coil & Contact 1,400 VDC
 - Between Contacts 250 VDC
- Insulation Resistance 100 MΩ Minimum.

- Temperature Range:
 - Operating -40~85 °C
 - Storage -40~125 °C
- Humidity Range 45~85% RH
- Vibration 20 G.
- Shock 100 G.
- Life Expectancy:
 - Electrical 10⁸ Operations at ref. 10VDC, 10mA.
- Weight.....About 1.6g.

Safety Standard & Its File Number

- UL & C-UL.....E141060

Coil Specification (at 20 °C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (mW)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
SIR	5	10	500	50	3.75	0.80	16
	12	12	1,000	144	8.60	1.00	20
	24	11	2,150	268	18.00	2.00	32

Ordering Information

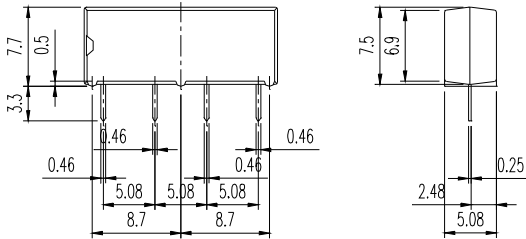
SIR - S 4 - 1 12 A L	Lead Spacing:	Nil: Standard
		L: Coil Lead Spacing 10.16mm
	Contact Form:	A: Make Contact Only
	Coil Voltage:	05: 5V, 12: 12V, 24: 24V
	Number of Pole:	1: One Pole
	Lead Number:	4: 4 Leads
	Coil Construction:	S: Standard
	Type:	SIR: Without Diode SID: With Diode

Classification

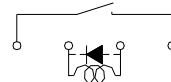
Model	SIR/D			
Coil Construction	S : Standard		D : With Diode	
Lead Type	4 Leads		4Leads	
Contact Form	1A		1A	
Lead Spacing	Nil : Standard	L : 10.16mm	Nil : Standard	L : 10.16mm
Ordering Type	SIR-S4-1□□A	SIR-S4-1□□AL	SID-D4-1□□A	SID-D4-1□□AL

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

SIR/D-S4-1□□A

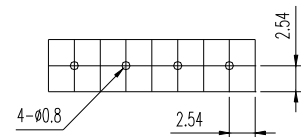


Circuit Schematic



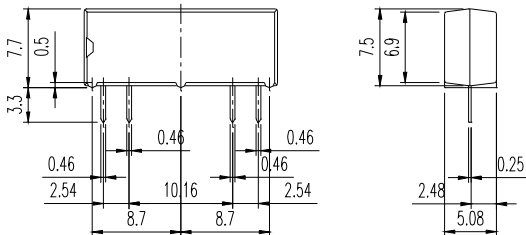
(TOP View)

PCB Layout

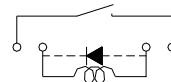


(TOP View)

SIR/D-S4-1□□AL

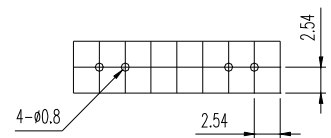


Circuit Schematic

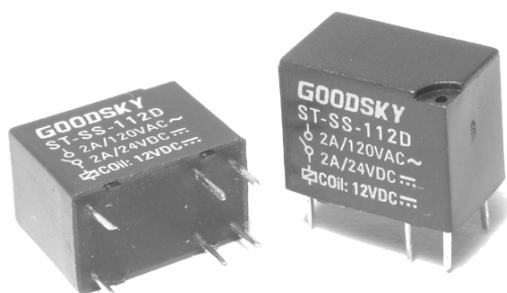


(TOP View)

PCB Layout



(TOP View)



Main Feature

1. Very small size with light weight.
2. Various coil sensitivity types are available.
3. Plastic sealed type is available for washing protective.
4. Wide operation coil voltage range.

Contact Rating

Load Type	ST (D)	ST (L)	ST (T)
Rated Load (Resistive)	2A 120VAC	2A 120VAC	2A 120VAC
	2A 24VDC	2A 24VDC	2A 24VDC
Rated Carrying Current	2A	2A	2A
Max. Allowable Voltage	AC 125V	AC 125V	AC 125V
	DC 60V	DC 60V	DC 60V
Max. Allowable Current	2A	2A	2A
Max. Allowable Power Force	240VA	240VA	240VA
	48W	48W	48W
Min. Switching Load	DC 5V, 1mA	DC 5V, 1mA	DC 5V, 1mA
Contact Material	Ag +Au	Ag +Au	Ag +Au
Contact Form	SPDT	SPDT	SPDT

Application

Telecommunication , Office Equipment and Industrial Control, Application.

Performance (at Initial Value)

- Contact Resistance 100mΩ max.@100mA, 6VDC
- Operate Time..... 5 mSec. Max.
- Release Time 3 mSec. Max.
- Dielectric Strength :
 - Between Coil & Contact 1,000VAC at 50/60 Hz for one minute.
 - Between Contacts 400VAC at 50/60 Hz for one minute.
- Surge Strength 1,500V (between Coil & Contact 1.2x50μSec.)
- Insulation Resistance 100 MegaΩ Min. at 500VDC.
- Max. On/Off Switching :
 - Electrical 30 Cycles per Minute.
 - Mechanical 300 Cycles per Minute.
- Temperature Range-30~70°C
- Humidity Range35~85% RH.
- Coil Temperature Rise40°C Max.
- Vibration:
 - Endurance.....10 to 55 Hz dual amplitude width 1.5mm.
 - Error Operation10 to 55 Hz dual amplitude width 1.5mm.
- Shock:
 - Endurance1,000 m/S².
 - Error Operation100 m/S².
- Life Expectancy:
 - Mechanical10⁷ Operations at No Load condition.
 - Electrical10⁵ Operations at Rated Resistive Load.
- Weight.....About 2 g.

Safety Standard & Its File Number

- UL & C-UL.....E141060

Coil Specification (at 20 °C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance (Ω±10%)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)		
ST-D	3	120	25	Abt.0.36	75% Maximum	5% Minimum	130%		
	5	71.4	70						
	6	60	100						
	9	40	225						
	12	30	400						
	24	15	1,600						
ST-T	3	67	45	Abt.0.2					
	5	40	125						
	6	33.3	180						
	9	22.5	400						
	12	16.7	720						
	24	8.3	2,880						
ST-L	3	50	60	Abt.0.15	80% Maximum				
	5	29.9	167						
	6	25.0	240						
	9	16.7	540						
	12	12.5	960						
	24	6.3	3,800						

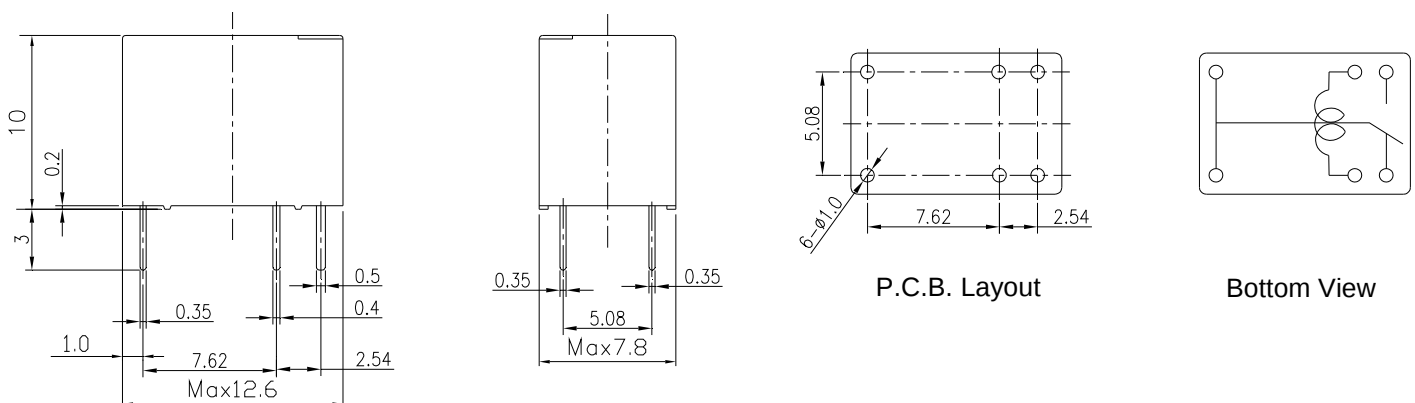
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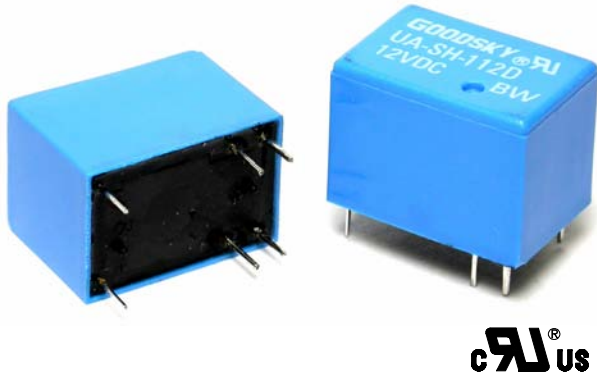
ST - SH - 1 12 D	Coil Type:	D: Standard DC Coil
		T: Medium Sensitivity DC Type
		L: High Sensitivity DC Type
	Coil Voltage:	03: 3V, 05: 5V, 06: 6V, 09: 9V, 12: 12V, 24: 24V
	Number of Pole:	1: One Pole
	Type of Sealing:	SS: RT II Flux Proofed Relays
		SH: RT III Wash Tight Relays
	Type:	ST

Classification

Model	ST		
Coil Type	Standard DC Coil	Medium Sensitivity DC Type	High Sensitivity DC Type
Flow Solder Type	ST-SS-1□□D	ST-SS-1□□T	ST-SS-1□□L
Plastic Sealed Type	ST-SH-1□□D	ST-SH-1□□T	ST-SH-1□□L

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)





Main Feature

1. Single Pole Relay UA series is designed with medium current load 3A for middle current load.
2. High dense design is available for P.C. Board application with size of 15.5 x 10.5 x 11.4 mm and the weight of 3.5 grams.
3. 2.54mm terminal pitch employment is equal to I.C.'s terminal pitch.
4. Employment of suitable plastic materials is applied under high temperature condition and various chemical solutions.
5. Complete protective construction is designed from dust and soldering flux. In addition, plastic sealed type is prepared for washing procedure.
6. Simple Relay magnetic circuit is meeting in mass production with low cost offer.

Contact Rating

Load Type	UA (DM/DB)	UA (D)
Rated Load (Resistive)	3A 120VAC	3A 120VAC
	3A 24VDC	3A 24VDC
Rated Carrying Current	3A	3A
Max. Allowable Voltage	AC 120V	AC 120V
	DC 60V	DC 60V
Max. Allowable Current	3A	3A
Max. Allowable Power Force	360VA	360VA
	72W	72W
Min. Switching Load	DC 5V, 10mA	DC 5V, 10mA
Contact Material	Ag Alloy	Ag Alloy
Contact Form	SPST	SPDT

Application

Telecommunication, Domestic Appliances, Office Machine, Audio Equipment, Camera, etc.

Performance (at Initial Value)

- Contact Resistance 100mΩ Max.@100mA, 6VDC
- Operate Time..... 8 mSec. Max.
- Release Time 4 mSec. Max.
- Dielectric Strength :
Between Coil & Contact..... 500VAC at 50/60 Hz for one minute.
Between Contacts.....500VAC at 50/60 Hz for one minute.
- Surge Strength.....1,000 V(between Coil & Contact 1.2x50μSec.)
- Insulation Resistance.....100 MegaΩ Min. at 500VDC.
- Max. On/Off Switching :
Electrical 30 Cycles per Minute.
Mechanical 300 Cycles per Minute.

- Temperature Range..... -25~55°C
- Coil Temperature Rise 40°C Max.
- Vibration :
Endurance 10 to 55 Hz dual amplitude width 1.5mm.
Error Operation..... 10 to 55 Hz dual amplitude width 1.5mm.
- Shock :
Endurance 500 m/S².
Error Operation..... 100 m/S².
- Life Expectancy :
Mechanical 10⁷ Operations at No Load condition.
Electrical 10⁵ Operations at Rated Resistive Load.
- Weight About 3.5 g.

Safety Standard & Its File Number

- UL & C-UL E141060

Coil Specification (at 20°C)

Coil Sensitivity	Nominal Voltage (VDC)	Nominal Current (mA)	Coil Resistance ($\Omega \pm 10\%$)	Power Consumption (W)	Pull-In Voltage (VDC)	Drop-Out Voltage (VDC)	Maximum Allowable Voltage (VDC)
UA - D/DM	3	120	25	Abt. 0.36	75% Maximum	5% Minimum	130%
	5	72.5	69				
	6	60	100				
	9	40	225				
	12	30	400				
	24	15	1,600				

Ordering Information

UA - SS - 1 12 D M

Contact Form:

Nil: One Form C

M: One Form A

B: One Form B

Coil Type:

D: Standard DC Coil

Coil Voltage:

03: 3V, 05: 5V, 06: 6V, 09: 9V, 12: 12V, 24: 24V

Number of Pole:

1: One Pole

Type of Sealing:

SS: RT II Flux Proofed Relays

SH: RT III Wash Tight Relays

Type:

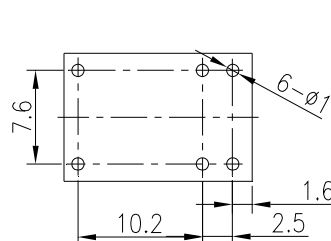
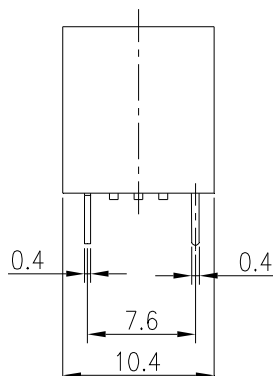
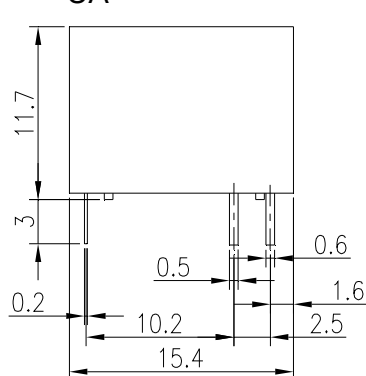
UA

Classification

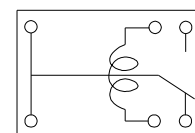
Model	UA		
Contact Form	1C	1A	1B
Flow Solder Type	UA-SS-1□□D	UA-SS-1□□DM	UA-SS-1□□DB
Plastic Sealed Type	UA-SH-1□□D	UA-SH-1□□DM	UA-SH-1□□DB

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

UA

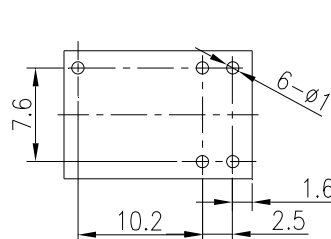
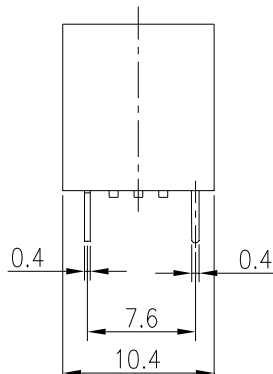
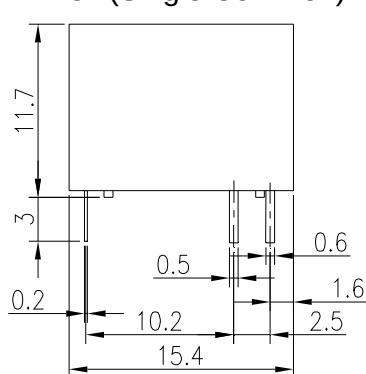


P.C.B. Layout

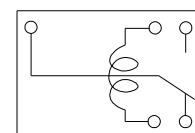


Bottom View

UA(Single Common)



P.C.B. Layout



Bottom View