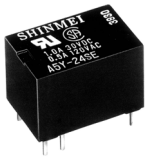
Wide Variation (X-Y terminal Variation, Heavy Duty Type), Single Pole Relay
A5 RELAYS

Features

<>Subminiature single pole relay.
<>Standard (450mW) & High sensitive (200mW) type.
X and Y terminal arrangement standard (1A). Heavy duty (2A) type are available.
<>Sealed construction.
<>Approved by UL, CSA.



Actual size

Applications

<>Portable equipment, Audio equipment.
<>Measuring instruments.

UL,CSA Rating

Standard type :1A30VDC,1A120VAC
Heavy duty type :2A30VDC,1A120VAC (UL File No.E128155 , CSA File No.180958(LR93742))

Model Number

A5 □ — □ — □ □ E

X : X terminal version
Y : Y terminal version

Nil : Standard type or High sensitive type
H : Heavy duty type

Coil voltage (3,5,6,9,12,24VDC)

Nil : Standard type or heavy duty type : 450mW
S : High sensitive type : 200mW

Products Line(Standard type, X terminal version)(at 20 degree Celsius)

Model number	Nominal Voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (ohm)	Nominal operating current (mA)	Electric power consumption (mW)	Max .allowable voltage (VDC)
A5X-3E	3	70% Max .of nominal voltage	10% Min .of nominal voltage	20	150.0	450	3.8
A5X-5E	5			56	89.3		6.3
A5X-6E	6			80	75.0		7.5
A5X-9E	9			180	50.0		11.2
A5X-12E	12			320	37.5		15.0
A5X-24E	24			1,280	18.8		30.1

[] Products Line(Standard type, Y terminal version)(at 20 degree Celsius)

Model number	Nominal Voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (ohm)	Nominal operating current (mA)	Electric power consumption (mW)	Max .allowable voltage (VDC)
A5Y-3E	3	70% Max .of nominal voltage	10% Min .of nominal voltage	20	150.0	450	3.8
A5Y-5E	5			56	89.3		6.3
A5Y-6E	6			80	75.0		7.5
A5Y-9E	9			180	50.0		11.2
A5Y-12E	12			320	37.5		15.0
A5Y-24E	24			1,280	18.8		30.1

[] Products Line(Heavy duty type, X terminal version)(at 20 degree Celsius)

Model number	Nominal Voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (ohm)	Nominal operating current (mA)	Electric power consumption (mW)	Max .allowable voltage (VDC)
A5X-H-3E	3	70% Max .of nominal voltage	10% Min .of nominal voltage	20	150.0	450	3.8
A5X-H-5E	5			56	89.3		6.3
A5X-H-6E	6			80	75.0		7.5
A5X-H-9E	9			180	50.0		11.2
A5X-H-12E	12			320	37.5		15.0
A5X-H-24E	24			1,280	18.8		30.1

[] Products Line(Heavy duty type, Y terminal version)(at 20 degree Celsius)

Model number	Nominal Voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (ohm)	Nominal operating current (mA)	Electric power consumption (mW)	Max .allowable voltage (VDC)
A5Y-H-3E	3	70% Max .of nominal voltage	10% Min .of nominal voltage	20	150.0	450	3.8
A5Y-H-5E	5			56	89.3		6.3
A5Y-H-6E	6			80	75.0		7.5
A5Y-H-9E	9			180	50.0		11.2
A5Y-H-12E	12			320	37.5		15.0
A5Y-H-24E	24			1,280	18.8		30.1

[] Products Line(High sensitive type, X terminal version)(at 20 degree Celsius)

Model number	Nominal Voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (ohm)	Nominal operating current (mA)	Electric power consumption (mW)	Max .allowable voltage (VDC)
A5X-3SE	3	70% Max .of nominal voltage	10% Min .of nominal voltage	45	66.7	200	5.6
A5X-5SE	5			120	41.7		9.2
A5X-6SE	6			180	33.3		11.2
A5X-9SE	9			400	22.5		16.8
A5X-12SE	12			700	17.1		22.2
A5X-24SE	24			2,800	8.6		44.5

[] Products Line(High sensitive type, Y terminal version)(at 20 degree Celsius)

Model number	Nominal Voltage (VDC)	Pick-up voltage (VDC)	Drop-out voltage (VDC)	Coil resistance (ohm)	Nominal operating current (mA)	Electric power consumption (mA)	Max .allowable voltage (VDC)
A5Y-3SE	3	70% Max .of nominal voltage	10% Min .of nominal voltage	45	66.7	200	5.6
A5Y-5SE	5			120	41.7		9.2
A5Y-6SE	6			180	33.3		11.2
A5Y-9SE	9			400	22.5		16.8
A5Y-12SE	12			700	17.1		22.2
A5Y-24SE	24			2,800	8.6		44.5

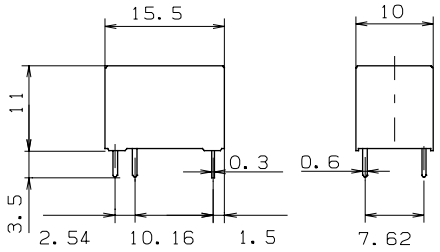
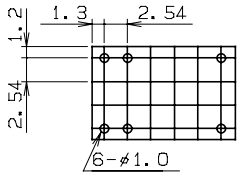
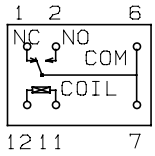
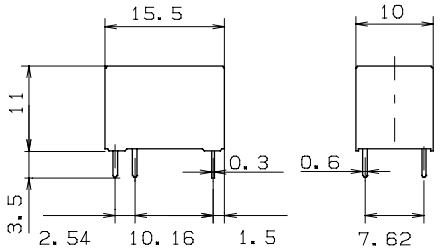
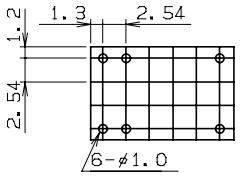
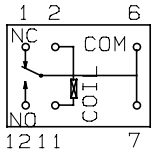
Typical Specifications

Item				Specifications	
Type				Standard type & High sensitive type	Heavy duty type
Contact	Arrangement			1c	
	Initial contact resistance max.			Max. 50 milliohm	
	Material			AgPd, gold clad	AgNi
Rating	Nominal switching Capacity			1A30VDC , 0.5A125VAC*	2A30VDC , 1A120VAC*
	Max .switching power			30W , 60VA	60W , 120VA
	Max .switching voltage			60VDC , 120VAC	
	Max .switching current			1A	2A
Electrical specification	Withstanding voltage (Initial)	Between open contacts		AC500V (1 minute)	
		Between contacts and coil		AC1,000V (1 minute)	
	Coil Temperature rise(at nominal Voltage)	Standard type & Heavy duty type		Max. 60 degree Celsius	
		High sensitive type		Max. 30 degree Celsius	
	Operate time (at nominal Voltage)	Standard type & Heavy duty type		Max. 5msec	
		High sensitive type		Max. 7msec	
	Release time(at nominal voltage)			Max. 3msec	
Mechanical specification	Shock resistance	Functional	Standard type & Heavy duty type	Min. 98m/s^2(10G)	
			High sensitive type	Min. 58.8m/s^2(6G)	
		Destruction		Min. 980 m/s^2(100G)	
	Vibration resistance	Functional		10 to 55Hz at double amplitude of 3.3mm	
Life expectancy	Mechanical life			10,000,000 operations (at 600cpm)	
	Electrical life(at rating)			500,000 operations (1A30VDC) 200,000 operations (0.5A120VAC) (at 20cpm)	200,000 operations (2A30VDC) 100,000 operations (1A120VAC) (at 20cpm)
Ambient temperature	Standard type & Heavy duty type			-25 to +55 degree Celsius (without being frozen)	
	High sensitive type			-25 to +75 degree Celsius (without being frozen)	
Unit weight				Approx. 3.8g	

*These AC ratings are under random phase-control. In driving AC load, life expectancy so greatly depends on the phase at turning on or off so that user should check selected relays with actual load

Dimensions

Unit:mm

Dimensions	PC board pattern (Bottom view)	Schematics (Bottom view)
A5X Type (X terminal version)	A5X Type (X terminal version)	A5X Type (X terminal version)
		
A5Y Type (Y terminal version)	A5Y Type (Y terminal version)	A5Y Type (Y terminal version)
		

Note

1. The appearance and specifications of the product may be modified without prior notice to improve its performance
2. This catalog shows only outline specifications. When using the product, please obtain formal specifications for supply
3. Please see appendix “Technical Definitions” and “Technical Notes”
4. Please feel free to contact us for relays with the specifications not shown in this catalogue.
5. Please confirm the performance on actual operation by simulation with actual environments for high reliability.