



1a1b/2a 8A polarized power relays

ST RELAYS



RoHS compliant

Protective construction: Sealed type

FEATURES

1. Even with small form factor, sensitive enough for direct IC-driving
The dimensions of this high-density 4-gap balanced armature are 31 mm × 14 mm × 11 mm 1.220 inch × .551 inch × .433 inch. Despite this small size, high sensitivity is achieved by a mechanism that incorporates high-efficiency polarized magnetic circuits along with our exclusive spring alignment method. With an minimum operating power of about 150 mW, nominal operating power of 240 mW, this relay can be directly driven by transistor or chip controllers.

2. High switching capability
High contact pressure, low contact bounce, and forced separation structure that radically improves resistance to contact welding (1 Form A 1 Form B type equivalent to TV-3). Strong against lamp inductive loads, maximum switching capacity has reached 3,040 VA (8A 380V AC).

3. High breakdown voltage – Optimal for control in 250 V power circuits
High breakdown voltage has been achieved. Between contacts and coil of 3,750 Vrms; Surge breakdown voltage between coil and contact of 6,000 V, and between open contacts of 1,200 Vrms mean that these relays are suitable even for 250 V power circuit control.

4. Improved stability
Conforms to all types of safety standards
Insulating distance of more than 3 mm .118 inch secured. Complies with Japan Electrical Appliance and Material Safety Law requirements for operating 200 V power supply circuits, and conforms with UL, CSA and VDE standards.

5. Latching types available
In addition to single side stable types, convenient 2 coil latching types with memory functions are also available. Moreover, we offer 2 Form A specifications which, with double pole switching for applications such as 250 V power circuit switching, can enable safer designs.

6. Automatic cleaning possible
The sealed design means that these relays can undergo immersion in automatic washing systems and are suitable for automatic soldering. Even in difficult environments, the contacts remain reliable.

7. Easy to design PC board patterns
Features 4/10 dual-in-line terminals. Because the lead spacing has a pitch greater than 7.54 mm .297 inch, designers can make easy adjustments with the width of the land size. This, along with the large insulation distance, simplifies the drawing of PC board patterns.

8. To improve soldering efficiency, preapplication of solder to the terminals is recommended

9. Sockets for PC board and soldering are available

ORDERING INFORMATION

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Contact arrangement
1: 1 Form A 1 Form B
2: 2 Form A

Operating function
Nil: Single side stable
L2: 2 coil latching

Nominal coil voltage
DC 3, 5, 6, 9, 12, 24, 48 V

Contact material
F: AgSnO₂ type contact

Note: Certified by UL, CSA and VDE

TYPES

Contact arrangement	Nominal coil voltage	Single side stable	2 coil latching
		Part No.	Part No.
1 Form A 1 Form B	3V DC	ST1-DC3V-F	ST1-L2-DC3V-F
	5V DC	ST1-DC5V-F	ST1-L2-DC5V-F
	6V DC	ST1-DC6V-F	ST1-L2-DC6V-F
	9V DC	ST1-DC9V-F	ST1-L2-DC9V-F
	12V DC	ST1-DC12V-F	ST1-L2-DC12V-F
	24V DC	ST1-DC24V-F	ST1-L2-DC24V-F
	48V DC	ST1-DC48V-F	ST1-L2-DC48V-F
2 Form A	3V DC	ST2-DC3V-F	ST2-L2-DC3V-F
	5V DC	ST2-DC5V-F	ST2-L2-DC5V-F
	6V DC	ST2-DC6V-F	ST2-L2-DC6V-F
	9V DC	ST2-DC9V-F	ST2-L2-DC9V-F
	12V DC	ST2-DC12V-F	ST2-L2-DC12V-F
	24V DC	ST2-DC24V-F	ST2-L2-DC24V-F
	48V DC	ST2-DC48V-F	ST2-L2-DC48V-F

Standard packing: Carton: 50 pcs.; Case: 500 pcs.

* Terminal sockets available.

RATING

1. Coil data

1) Single side stable

Nominal coil voltage	Pick-up voltage (at 20°C 68°F)	Drop-out voltage (at 20°C 68°F)	Nominal operating current [±10%] (at 20°C 68°F)		Coil resistance [±10%] (at 20°C 68°F)	Nominal operating power	Max. applied voltage (at 20°C 68°F)
3V DC	80%V or less of nominal voltage (Initial)	10%V or more of nominal voltage (Initial)	75mA		38Ω	Approx. 240mW	150%V of nominal voltage
5V DC			47mA		105Ω		
6V DC			40mA		150Ω		
9V DC			25mA		360Ω		
12V DC			20mA		600Ω		
24V DC			10mA		2,400Ω		
48V DC			4.7mA		9,000Ω		

2) 2 coil latching

Nominal coil voltage	Set voltage (at 20°C 68°F)	Reset voltage (at 20°C 68°F)	Nominal operating current [±10%] (at 20°C 68°F)		Coil resistance [±10%] (at 20°C 68°F)		Nominal operating power		Max. applied voltage (at 20°C 68°F)
			Set coil	Reset coil	Set coil	Reset coil	Set coil	Reset coil	
3V DC	80%V or less of nominal voltage (Initial)	80%V or less of nominal voltage (Initial)	75mA	75mA	40Ω	40Ω	Approx. 240mW	Approx. 240mW	150%V of nominal voltage
5V DC			45mA	45mA	110Ω	110Ω			
6V DC			37.5mA	37.5mA	155Ω	155Ω			
9V DC			25mA	25mA	360Ω	360Ω			
12V DC			18.8mA	18.8mA	640Ω	640Ω			
24V DC			10mA	10mA	2,400Ω	2,400Ω			
48V DC			4.7mA	4.7mA	10,200Ω	10,200Ω			