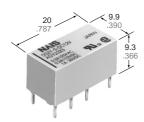




MINIATURE RELAY

DS2Y-RELAYS



mm inch

FEATURES

- 2 Form C contact
- High sensitivity-200 mW nominal operating power
- High breakdown voltage
 1500 V FCC surge between open contacts
- DIP-2C type matching 16 pin IC socket
- Sealed construction

SPECIFICATIONS

Contact

Arrangement			2 Form C				
Initial contact (By voltage of		50 mΩ					
Contact material			Gold-clad sliver				
Rating (resistive)	Max. switc	hing power	60 W, 62.5 VA				
	Max. switch	hing voltage	220 V DC, 250 V AC				
	Max. switch	hing current	2 A				
	Max. carry	ring current	3 A				
Expected life (min. operations)	Mechanica	al	1×10 ⁸				
	Electrical	1 A 30 V DC	5×10⁵				
		2 A 30 V DC	1×10 ⁵				

Coil (polarized) (at 20°C 68°F)

Single side stable	Minimum operating power	Approx. 98 mW (147 mW: 48 V)			
	Nominal operating power	Approx. 200 mW (300 mW: 48 V)			
2 coil latching	Minimum set and reset power	Approx. 88 mW (177 mW: 48 V)			
	Nominal set and reset power	Approx. 180 mW (360 mW: 48 V)			

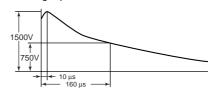
Remarks

- * Specifications will vary with foreign standards certification ratings.
- *1 Measurement at same location as "Initial breakdown voltage" section
- *2 Detection current: 10mA
- *3 Excluding contact bounce time
- *4 Half-wave pulse of sine wave: 11ms, detection time: 10μs
- *5 Half-wave pulse of sine wave: 6ms
- *6 Detection time: 10μs
- *7 Refer to 5. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT (Page 61).

Characteristics (at 20°C 68°F)

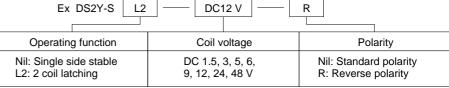
		-					
Initial insulation resistance*1			Min. 100 MΩ (at 500 V DC)				
Initial breakdown voltage*2	Between ope	n contacts	750 Vrms				
	Between cont	act sets	1,000 Vrms				
	Between cont	act and coil	1,000 Vrms				
FCC surge voltage between contacts and coil			1,500 V				
Operate time*3 (at nominal voltage)			Approx. 4 ms				
Release time	e*3 (at nominal	voltage)	Approx. 3 ms				
Set time*3 (la	tching) (at nor	ninal voltage)	Approx. 3 ms				
Reset time*3 (latching) (at nominal voltage)			Approx. 3 ms				
Temperature rise			Max. 65°C with nominal voltage across coil and at nominal switching capacity				
Shock resistance		Functional*4	Min. 490 m/s ² {50 G}				
		Destructive*5	Min. 980 m/s ² {100 G}				
Vibration resistance		Functional*6	10 to 55 Hz at double amplitude of 3.3 mm				
		Destructive	10 to 55 Hz at double amplitude of 5 mm				
Conditions for operation, transport and storage* ⁷ (Not freezing and condens- ing at low temperature)		Ambient temp.	-40°C to +70°C -40°F to +158°F				
		Humidity	5 to 85% R.H.				
Unit weight			Approx. 4 g .14 oz				
ECC (Endoral C	ECC (Federal Communication Commission) requests following standard as Break-						

FCC (Federal Communication Commission) requests following standard as Breakdown Voltage specification.



TYPICAL APPLICATIONS ORDERING INFORMATION

- Telecommunication equipment
- Office equipment
- Computer peripherals
- · Security alarm systems
- Medical equipment



(Note) Standard packing: Carton: 50 pcs. Case: 500 pcs.

TYPES AND COIL DATA (at 20°C 68°F)

Single side stable

Nominal voltage, V DC	Part No.	Pick-up voltage, V DC (max.)	Drop-out voltage, V DC (min.)	Nominal operating current mA (±10%)	Coil resistance, Ω (±10%)	Nominal operating power mW	Maximum allow- able voltage, V DC (at 50°C 122°F)
1.5	DS2Y-S-DC1.5V	1.05	0.15	132.7	11.3	200	3
3	DS2Y-S-DC3V	2.10	0.3	66.7	45	200	6
5	DS2Y-S-DC5V	3.5	0.5	40	125	200	10
6	DS2Y-S-DC6V	4.2	0.6	33.3	180	200	12
9	DS2Y-S-DC9V	6.3	0.9	22.2	405	200	18
12	DS2Y-S-DC12V	8.4	1.2	16.7	720	200	24
24	DS2Y-S-DC24V	16.8	2.4	8.3	2,880	200	48
48	DS2Y-S-DC48V	33.6	4.8	6.3	7,680	300	86

(Note) Standard packing: Carton: 50 pcs. Case: 500 pcs.

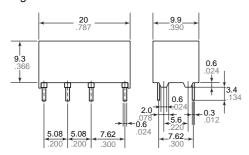
2 coil latching

Nominal voltage, Part No V DC	Part No.	Reset set,	Nominal operating current mA (±10%)		Coil resistance, Ω (±10%)		Nominal operating power, mW		Maximum allow- able voltage, V DC
		V DC (max.)	Set	Reset	Set	Reset	Set	Reset	(at 50°C 122°F)
1.5	DS2Y-SL2-DC1.5V	1.05	120	120	12.5	12.5	180	180	3
3	DS2Y-SL2-DC3V	2.1	60	60	50	50	180	180	6
5	DS2Y-SL2-DC5V	3.5	36	36	139	139	180	180	10
6	DS2Y-SL2-DC6V	4.2	30	30	200	200	180	180	12
9	DS2Y-SL2-DC9V	6.3	20	20	450	450	180	180	18
12	DS2Y-SL2-DC12V	8.4	15	15	800	800	180	180	24
24	DS2Y-SL2-DC24V	16.8	7.5	7.5	3,200	3,200	180	180	48
48	DS2Y-SL2-DC48V	33.6	7.5	7.5	6,400	6,400	360	360	72

(Note) Standard packing: Carton: 50 pcs. Case: 500 pcs.

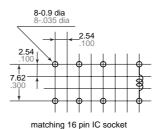
DIMENSIONS

Single side stable



General tolerance: $\pm 0.3 \pm .012$

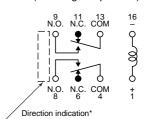
PC board pattern (Copper-side view)



Tolerance: ±0.1 ± .004

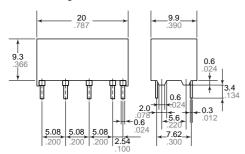
mm inch

Schematic (Bottom view) (Deenergized position)



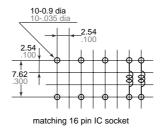
*A polarity bar shows the relay direction.

2 coil latching



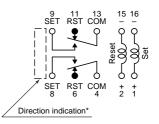
General tolerance: $\pm 0.3 \pm .012$

PC board pattern (Copper-side view)



Tolerance: ±0.1 ± .004

Schematic (Bottom view) (Reset position)

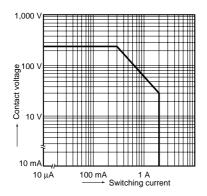


*A polarity bar shows the relay direction.

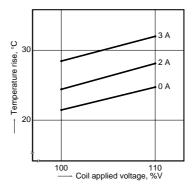
Diagram shows the "reset" posetion when terminals 2 and 15 are energized. Energize terminals 1 and 16 to transfer contacts.

REFERENCE DATA

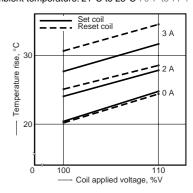
1. Maximum switching capacity



2-(1) Coil temperature rise (Single side stable) Tested sample: DS2Y-S-DC12V, 5 pcs. Measured portion: Inside the coil Ambient temperature: 21°C to 25°C 70°F to 77°F

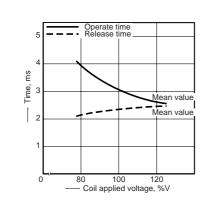


2-(2) Coil temperature rise 2 coil latching Tested sample: DS2Y-SL2-DC12V, 5 pcs. Measured portion: Inside the coil Ambient temperature: 21°C to 25°C 70°F to 77°F



3. Operate/release time for single side stable (Without diode)

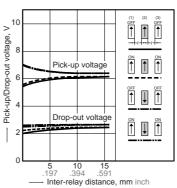
Tested sample: DS2Y-S-DC12V, 10 pcs. Ambient temperature: 20°C 68°F



4-(1) Influence of adjacent mounting Tested sample: DS2Y-S-DC12V, 10 pcs. Ambient temperature: 20°C 68°F

TEST METHOD

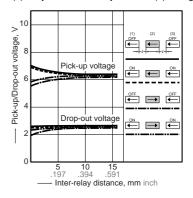
- Apply nominal voltage to No. (1) and (3) DS2Y relays.
- Measure pick-up voltage and drop-out voltage of No. (2) relay when inter-relay distance (ℓ) changes.



4-(2) Influence of adjacent mounting Tested sample: DS2Y-S-DC12V, 10 pcs. Ambient temperature: 20°C 68 $^{\circ}$ F

TEST METHOD

- Apply nominal voltage to No. (1) and (3) DS2Y relays.
- 2. Measure pick-up voltage and drop-out voltage of No. (2) relay when inter-relay distance (ℓ) changes.



For Cautions for Use, see Relay Technical Information (Page 48 to 76).