

5. Surface-mount terminal and reversed contact type, E layout

Impedance	Nominal coil voltage	Part No.		
		Single side stable type	1 coil latching type	2 coil latching type
50 Ω	3 V DC	ARS34A03□	ARS35A03□	ARS36A03□
	4.5 V DC	ARS34A4H□	ARS35A4H□	ARS36A4H□
	9 V DC	ARS34A09□	ARS35A09□	ARS36A09□
	12 V DC	ARS34A12□	ARS35A12□	ARS36A12□
	24 V DC	ARS34A24□	ARS35A24□	ARS36A24□
75 Ω	3 V DC	ARS30A03□	ARS31A03□	ARS32A03□
	4.5 V DC	ARS30A4H□	ARS31A4H□	ARS32A4H□
	9 V DC	ARS30A09□	ARS31A09□	ARS32A09□
	12 V DC	ARS30A12□	ARS31A12□	ARS32A12□
	24 V DC	ARS30A24□	ARS31A24□	ARS32A24□

Standard packing: 40 pcs. in an inner package (tube); 1,000 pcs. in an outer package

Standard packing: 500 pcs. in an inner package (tape and reel); 1,000 pcs. in an outer package

Note: The box at the end of a part number shows where packing type is indicated. If there is no indication, tube packing will be used.

If "X" or "Z" is added, tape and reel packing will be used. Example: ARS34A03 (tube packing), ARS34A03X (tape and reel packing)

6. Surface-mount terminal and reversed contact type, Y layout

Impedance	Nominal coil voltage	Part No.		
		Single side stable type	1 coil latching type	2 coil latching type
50 Ω	3 V DC	ARS34Y03□	ARS35Y03□	ARS36Y03□
	4.5 V DC	ARS34Y4H□	ARS35Y4H□	ARS36Y4H□
	9 V DC	ARS34Y09□	ARS35Y09□	ARS36Y09□
	12 V DC	ARS34Y12□	ARS35Y12□	ARS36Y12□
	24 V DC	ARS34Y24□	ARS35Y24□	ARS36Y24□
75 Ω	3 V DC	ARS30Y03□	ARS31Y03□	ARS32Y03□
	4.5 V DC	ARS30Y4H□	ARS31Y4H□	ARS32Y4H□
	9 V DC	ARS30Y09□	ARS31Y09□	ARS32Y09□
	12 V DC	ARS30Y12□	ARS31Y12□	ARS32Y12□
	24 V DC	ARS30Y24□	ARS31Y24□	ARS32Y24□

Standard packing: 40 pcs. in an inner package (tube); 1,000 pcs. in an outer package

Standard packing: 500 pcs. in an inner package (tape and reel); 1,000 pcs. in an outer package

Note: The box at the end of a part number shows where packing type is indicated. If there is no indication, tube packing will be used.

If "X" or "Z" is added, tape and reel packing will be used. Example: ARS34Y03 (tube packing), ARS34Y03X (tape and reel packing)

RATING

1. Coil data

1) Single side stable type

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 60°C 140°F)
3 V DC	75%V or less of nominal voltage (Initial)	10%V or more of nominal voltage (Initial)	66.7 mA	45 Ω	200 mW	110%V or less of nominal voltage
4.5 V DC			44.4 mA	101.3 Ω		
9 V DC			22.2 mA	405 Ω		
12 V DC			16.7 mA	720 Ω		
24 V DC			8.3 mA	2,880 Ω		

2) 1 coil latching type

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 60°C 140°F)
3 V DC	75%V or less of nominal voltage (Initial)	75%V or less of nominal voltage (Initial)	66.7 mA	45 Ω	200 mW	110%V or less of nominal voltage
4.5 V DC			44.4 mA	101.3 Ω		
9 V DC			22.2 mA	405 Ω		
12 V DC			16.7 mA	720 Ω		
24 V DC			8.3 mA	2,880 Ω		

3) 2 coil latching type

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 60°C 140°F)
3 V DC	75%V or less of nominal voltage (Initial)	75%V or less of nominal voltage (Initial)	133.3 mA	22.5 Ω	400 mW	110%V or less of nominal voltage
4.5 V DC			88.9 mA	50.6 Ω		
9 V DC			44.4 mA	202.5 Ω		
12 V DC			33.3 mA	360 Ω		
24 V DC			16.7 mA	1,440 Ω		

2. Specifications

Item			Specifications
Contact	Arrangement		1 Form C
	Contact material		Gold plating
	Contact resistance (Initial)		Max. 100 mΩ (By voltage drop 10 V AC 10mA)
Rating	Nominal switching capacity		1W (at 3 GHz, Impedance: 50/75Ω, V.S.W.R.: Max. 1.4), 10 mA 24 V DC (resistive load)
	Contact carrying power		Max. 10W (at 3GHz, Impedance: 50/75Ω, V.S.W.R.: Max. 1.4)
	Max. switching voltage		30 V DC
	Max. switching current		0.5 A DC
	Nominal operating power	Single side stable type	200mW
		1 coil latching type	200mW
2 coil latching type		400mW	
High frequency characteristics, Impedance: 50Ω (Initial)	V.S.W.R.		Max. 1.20/900MHz, Max. 1.40/3GHz (Standard PC board terminal) Max. 1.20/900MHz, Max. 1.40/3GHz (Surface-mount terminal)
	Insertion loss (without D.U.T. board's loss)		Max. 0.10dB/900MHz, Max. 0.35dB/3GHz (Standard PC board terminal) Max. 0.20dB/900MHz, Max. 0.40dB/3GHz (Surface-mount terminal)
	Isolation		Min. 60dB/900MHz, Min. 35dB/3GHz (Standard PC board terminal) Min. 55dB/900MHz, Min. 30dB/3GHz (Surface-mount terminal)
High frequency characteristics, Impedance: 75Ω (Initial)	V.S.W.R.		Max. 1.15/900MHz, Max. 1.40/3GHz (Standard PC board terminal) Max. 1.20/900MHz, Max. 1.50/3GHz (Surface-mount terminal)
	Insertion loss (without D.U.T. board's loss)		Max. 0.10dB/900MHz, Max. 0.30dB/3GHz (Standard PC board terminal) Max. 0.20dB/900MHz, Max. 0.50dB/3GHz (Surface-mount terminal)
	Isolation		Min. 60dB/900MHz, Min. 30dB/3GHz (Standard PC board terminal) Min. 55dB/900MHz, Min. 30dB/3GHz (Surface-mount terminal)
Electrical characteristics	Insulation resistance (Initial)		Min. 100MΩ (at 500V DC, Measurement at same location as “Breakdown voltage” section.)
	Breakdown voltage (Initial)	Between open contacts	500 Vrms for 1min. (Detection current: 10mA)
		Between contact and earth terminal	500 Vrms for 1min. (Detection current: 10mA)
		Between contact and coil	1,000 Vrms for 1min. (Detection current: 10mA)
	Temperature rise (at 20°C 68°F)		Max. 60°C 140°F (By resistive method, nominal voltage applied to the coil, contact carrying current: 10mA)
	Operate time (at 20°C 68°F)		Max. 10 ms (Nominal voltage applied to the coil, excluding contact bounce time)
	Release time (at 20°C 68°F)		Max. 6 ms (Nominal voltage applied to the coil, excluding contact bounce time) (without diode)
	Set time and Reset time (at 20°C 68°F)		Max. 10 ms (Nominal voltage applied to the coil, excluding contact bounce time)
Mechanical characteristics	Shock resistance	Functional	Min. 196 m/s ² (Half-wave pulse of sine wave: 11 ms, detection time: 10μs)
		Destructive	Min. 980 m/s ² (Half-wave pulse of sine wave: 6 ms)
	Vibration resistance	Functional	10 to 55 Hz at double amplitude of 3 mm (Detection time: 10μs)
		Destructive	10 to 55 Hz at double amplitude of 5 mm
Operation noise*	Standard type		Approx. 40dB
	Silent type (75Ω, PC board terminal type only)		Approx. 30dB
Expected life	Mechanical life	Single side stable standard type	Min. 5×10 ⁶ (at 180 cpm)
		Single side stable silent type	Min. 10 ⁶ (at 180 cpm)
		Latching type	Min. 10 ⁶ (at 180 cpm)
	Electrical life	50Ω type	Min. 10 ⁶ (Standard PC board terminal), Min. 3×10 ⁵ (Surface-mount terminal) (10V DC 10mA resistive load)/Min. 3×10 ⁵ (24V DC 10mA resistive load) Min. 10 ⁶ (Standard PC board terminal), Min. 3×10 ⁵ (Surface-mount terminal) (1W, at 3GHz, Impedance: 50Ω, V.S.W.R: Max. 1.4) (at 20 cpm)
		75Ω type	Min. 3×10 ⁵ (10mA 24V DC resistive load) Min. 3×10 ⁵ (1W, at 3GHz, Impedance: 75Ω, V.S.W.R: Max. 1.4) (at 20 cpm)
Conditions	Conditions for operation, transport and storage		Ambient temperature: -40 to 70°C -40°F to 158°F (Single side stable standard and Latching type) Ambient temperature: -40 to 60°C -40°F to 140°F (Single side stable silent type) Humidity: 5 to 85% R.H. (Not freezing and condensing at low temperature)
Unit weight			Approx. 2 g .071 oz

* Measured the operation noise of the relay alone (with diodes at both ends of the coil) 30cm away from top side, by the A-weighted, FAST method while applying the rated voltage.