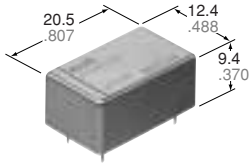
NAiS

3 GHz SMALL MICROWAVE RELAY

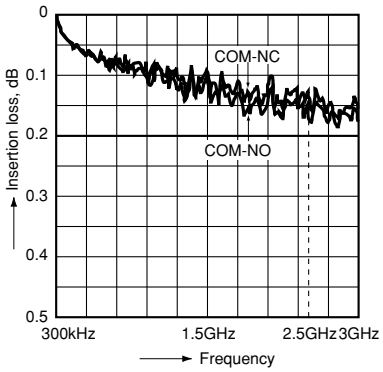
RX RELAYS (ARX)



mm inch

1. Excellent high frequency characteristics (~2.5GHz, Impedance 50W)
- Insertion loss: 0.2 dB or less
- Isolation: 60 dB or more

• Insertion loss



- V.S.W.R./ Return loss: 1.2dB or less/ 20.8dB or more

2. High sensitivity
- Nominal operating power: 200 mW

3. Small size
- Size: 20.5(L) × 12.4(W) × 9.4(H) mm .807(L) × .488(W) × .370(H) inch

*Also available for unit support (contact us for more details).

SPECIFICATIONS

Contact

Arrangement			1 Form C
Contact material			Gold
Initial contact resistance			Max. 100 mΩ
Rating	Contact rating		10W (2.5 GHz, Impedance 50 Ω, V.S.W.R. ≦ 1.2) 10mA 24V DC (resistive load)
	Contact carrying power		Max. 20W (at 40°C, V.S.W.R. ≦ 1.2, Average)
	Max. switching voltage		30 V DC
	Max. switching current		0.5 A DC
High frequency characteristics (~2.5GHz, Impedance 50Ω)	V.S.W.R. (Return loss)		Max. 1.2 (Min. 20.8dB)
	Insertion loss		Max. 0.2 dB
	Isolation		Min. 60 dB
	Input power		Max. 20W (at 40°C, V.S.W.R. ≦ 1.2, Average)
Expected life (min. operations)	Mechanical (at 180 cpm)		5×10^6
	Electrical	10mA 24 V DC (resistive load)	3×10^5
		10W 2.5 GHz, Impedance 50Ω, V.S.W.R. ≦ 1.2	10^5

Coil (at 20°C, 68°F)

	Nominal operating power
Single side stable	200 mW
1 coil latching	200 mW
2 coil latching	400 mW

Characteristics

Initial insulation resistance*1		Min. 100 MΩ (at 500 V DC)
Initial breakdown voltage*2	Between open contacts	500 Vrms
	Between contact and coil	1,000 Vrms
	Between contact and earth terminal	500 Vrms
Operate time [Set time]*3 (at 20°C)		Max. 10ms (Approx. 6ms) [Max. 10ms (Approx. 5ms)]
Release time (without diode) [Reset time]*3		Max. 6ms (Approx. 3ms) [Max. 10ms (Approx. 5ms)]
Temperature rise (at 20°C)*4		Max. 60°C
Shock resistance	Functional*5	Min. 200 m/s² {20 G}
	Destructive*6	Min. 1,000 m/s² {100 G}
Vibration resistance	Functional*7	10 to 55 Hz at double amplitude of 3 mm
	Destructive	10 to 55 Hz at double amplitude of 5 mm
Conditions for operation, transport and storage*8 (Not freezing and condensing at low temperature)	Ambient temp.	–40°C to 70°C –40°F to 158°F
	Humidity	5 to 85% R.H.
Unit weight		Approx. 5 g .18 oz

Remarks
*1 Measurement at same location as "Initial breakdown voltage" section.
*2 Detection current: 10mA
*3 Nominal operating voltage applied to the coil, excluding contact bounce time.
*4 By resistive method, nominal voltage applied to the coil: Contact carrying power: 20W, at 2.5GHz, Impedance 50Ω, V.S.W.R. ≦ 1.2
*5 Half-wave pulse of sine wave: 11ms, detection time: 10μs.
*6 Half-wave pulse of sine wave: 6ms
*7 Detection time: 10μs
*8 Refer to 6. Conditions for operation, transport and storage mentioned in AMBIENT ENVIRONMENT.

TYPICAL APPLICATIONS

- Cellular phone base station (W-CDMA, FPLMTS, IMT-2000, PCS, DCS)
- Cellular phone-related measurement devices (SP3T/SP4T switches, etc)
- Wireless LAN
- Wireless Local Loop

ORDERING INFORMATION

Ex. A | RX | 1 | 0 | 12

Product name	Contact arrangement	Operating function	Coil voltage, V DC
RX	1: 1 Form C	0: Single side stable 1: 1 coil latching 2: 2 coil latching	03: 3 09: 9 4H: 4.5 12: 12 06: 6 24: 24

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

TYPES ANE COIL DATA (at 20°C 68°F)

• Single side stable type

Part No.	Nominal voltage, V DC	Pick-up voltage, V DC (max.)(initial)	Drop-out voltage, V DC (min.)(initial)	Coil resistance, Ω (±10%)	Nominal operating current, mA (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC (at 60°C)
ARX1003	3	2.25	0.3	45	66.7	200	3.3
ARX104H	4.5	3.375	0.45	101	44.4	200	4.95
ARX1006	6	4.5	0.6	180	33.3	200	6.6
ARX1009	9	6.75	0.9	405	22.2	200	9.9
ARX1012	12	9	1.2	720	16.7	200	13.2
ARX1024	24	18	2.4	2,880	8.3	200	26.4

• 1 coil latching type

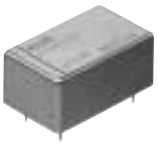
Part No.	Nominal voltage, V DC	Set voltage, V DC (max.)(initial)	Reset voltage, V DC (max.)(initial)	Coil resistance, Ω (±10%)	Nominal operating current, mA (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC (at 60°C)
ARX1103	3	2.25	2.25	45	66.7	200	3.3
ARX114H	4.5	3.375	3.375	101	44.4	200	4.95
ARX1106	6	4.5	4.5	180	33.3	200	6.6
ARX1109	9	6.75	6.75	405	22.2	200	9.9
ARX1112	12	9	9	720	16.7	200	13.2
ARX1124	24	18	18	2,880	8.3	200	26.4

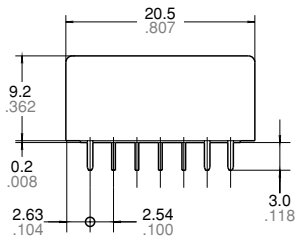
• 2 coil latching type

Part No.	Nominal voltage, V DC	Set voltage, V DC (max.)(initial)	Reset voltage, V DC (max.)(initial)	Coil resistance, Ω (±10%)	Nominal operating current, mA (±10%)	Nominal operating power, mW	Max. allowable voltage, V DC (at 60°C)
ARX1203	3	2.25	2.25	22.5	133.3	400	3.3
ARX124H	4.5	3.375	3.375	50.6	88.9	400	4.95
ARX1206	6	4.5	4.5	90	66.7	400	6.6
ARX1209	9	6.75	6.75	202.5	44.4	400	9.9
ARX1212	12	9	9	360	33.3	400	13.2
ARX1224	24	18	18	1,440	16.7	400	26.4

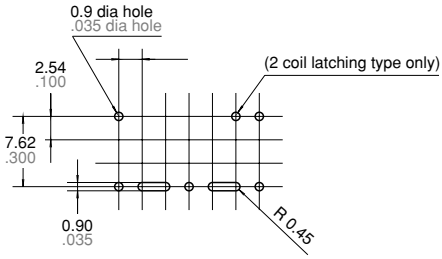
DIMENSIONS

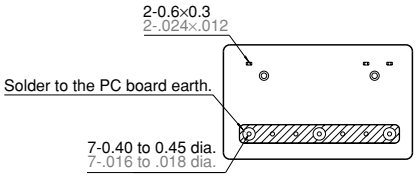
mm inch





PC board pattern (Bottom view)

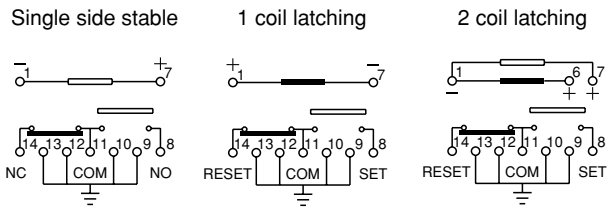




Tolerance: ±0.1 ±.004

General tolerance: ±0.3 ±.012

Schematic (Bottom view)



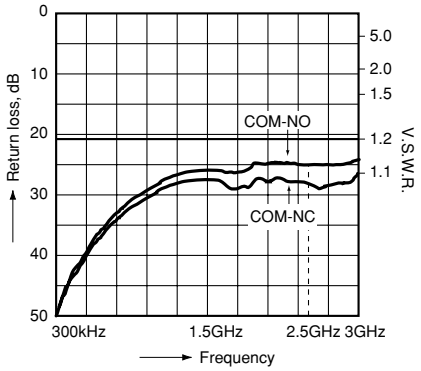
(Deenergized condition) (Reset condition) (Reset condition)

REFERENCE DATA

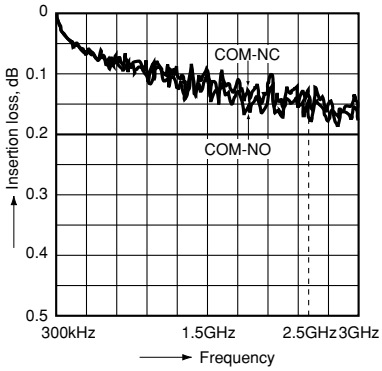
1. High frequency characteristics
Sample: ARX1012
Measuring method: Measured with HP network analyzer (HP8753C).

The details for the high freqency characteristics and the measurement procedures and conditions are listed in the RX relay test report.

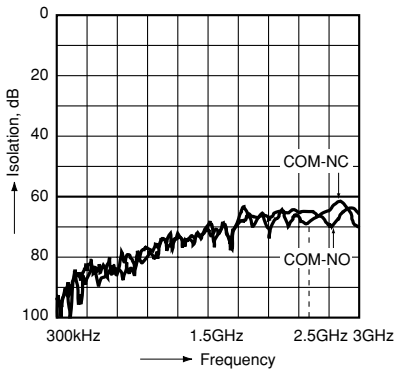
• V.S.W.R. (Return loss)



• Insertion loss



• Isolation



For Cautions for Use, see Relay Technical Information.