

NAIS

2.6 GHz SMALL MICROWAVE RELAYS

RE RELAYS (ARE)

FEATURES

• **Excellent high frequency characteristics (to 2.6GHz)**

Type	Frequency	900MHz	2.6GHz
Impedance 50Ω	V.S.W.R. (Max.)	1.3	1.7
	Insertion loss (dB, Max.)	0.2	0.7
	Isolation (dB, Min.)	60	30
Impedance 75Ω	V.S.W.R. (Max.)	1.2	1.5
	Insertion loss (dB, Max.)	0.2	0.5
	Isolation (dB, Min.)	60	30

• **Compact and slim size**

Size: 20.2(L) × 11.2(W) × 8.9(H)* mm
 .795(L) × .441(W) × .350(H) inch
 *Surface-mount terminal is 9.6 mm .378 inch size.

TYPICAL APPLICATIONS

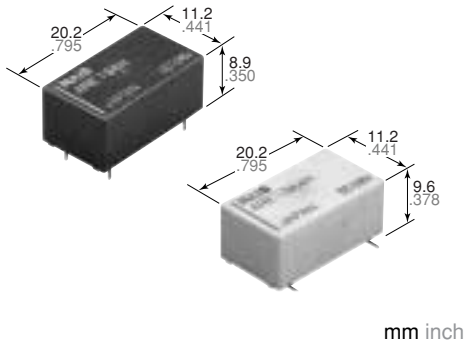
1. Broadcasting and video markets.

- Digital broadcasting market
- STB/tuner market, etc.

2. Communications market

- Antennae switching
- All types of wireless devices

• **Surface-mount type also available**



SPECIFICATIONS

Contact		Coil (at 20°C, 68°F)	
Arrangement		1 Form C	
Contact material		Gold	
Initial contact resistance		Max. 100mΩ	
Rating	Contact rating	1W (at 2.6 GHz [Impedance 75 Ω, V.S.W.R. Max.1.5] [Impedance 50 Ω, V.S.W.R. Max.1.7]) 10mA 24V DC (resistive load)	
	Contact carrying power	10W (at 2.6GHz [Impedance 75 Ω, V.S.W.R. Max.1.5] [Impedance 50 Ω, V.S.W.R. Max.1.7])	
	Max. switching voltage	30 V DC	
	Max. switching current	0.5 A DC	
	High frequency characteristics (Impedance 75Ω)	V.S.W.R.	Max. 1.2 (to 900MHz) Max. 1.5 (to 2.6GHz)
High frequency characteristics (Impedance 50Ω)	Insertion loss	Max. 0.2dB (to 900MHz) Max. 0.5dB (to 2.6GHz)	
	Isolation	Min. 60dB (to 900MHz) Min. 30dB (to 2.6GHz)	
	Mechanical (at 180 cpm)	10 ⁶	
Expected life (min. operations)	Electrical	1W, 2.6GHz, [Impedance 75Ω, V.S.W.R. ≤ 1.5] [Impedance 50Ω, V.S.W.R. ≤ 1.7]	3×10 ⁵
		10mA 24V DC (resistive load) (at 20cpm)	3×10 ⁵
	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
Unit weight	Humidity	5 to 85% R.H.	
	Approx. 5 g .18 oz		
Remarks			
* Specifications will vary with foreign standards certification ratings.			
*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: 10W, at 2.6GHz, [Impedance 75Ω, V.S.W.R. ≤ 1.5] [Impedance 50Ω, V.S.W.R. ≤ 1.7]			
*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.			

ORDERING INFORMATION

Ex. ARE

1

Contact arrangement	Operating function	Terminal shape	Coil voltage (DC)	Packing style
1: 1 Form C	0: Single side stable type (Impedance 50Ω) 3: Single side stable type (Impedance 75Ω)	Nil: Standard PC board terminal A: Surface-mount terminal	03: 3 V 4H: 4.5 V 06: 6 V 09: 9 V 12: 12 V 24: 24 V	Nil: Carton packing (Standard PC board terminal only) Tube packing (Surface-mount terminal only) Z: Tape and reel packing (picked from 12/13/14 pin side)

Note: Tape and reel packing symbol "-Z" is not marked on the relay.

"X" type tape and reel packing (picked from 8/9/10/11/12/13/14-pin side) is also available.

Suffix "X" instead of "Z".

TYPES AND COIL DATA (at 20°C 68°F)

- **Single side stable type (Impedance 50Ω)**
- Packing of standard PC board terminal: 50 pcs. in an inner package (carton); 500 pcs. in an outer package.
- Packing of surface-mount terminal: 25 pcs. in an inner package (tube); 200 pcs. in an outer package.
- Packing of surface-mount terminal: 400 pcs. in an inner package (tape and reel); 800 pcs. in an outer package.

Standard PC board terminal	Surface-mount terminal	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)
ARE1003	ARE10A03	3	2.25	0.3	45	66.7	200	3.3
ARE104H	ARE10A4H	4.5	3.375	0.45	101	44.4	200	4.95
ARE1006	ARE10A06	6	4.5	0.6	180	33.3	200	6.6
ARE1009	ARE10A09	9	6.75	0.9	405	22.2	200	9.9
ARE1012	ARE10A12	12	9	1.2	720	16.7	200	13.2
ARE1024	ARE10A24	24	18	2.4	2,880	8.3	200	26.4

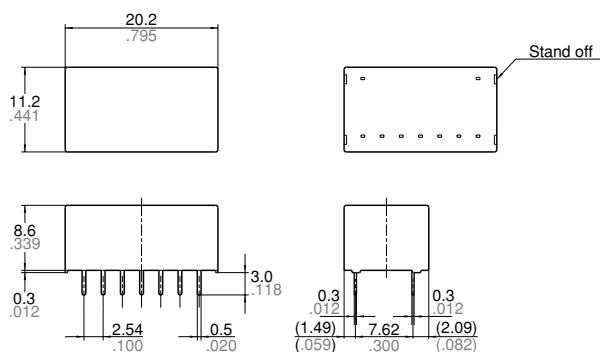
- **Single side stable type (Impedance 75Ω)**
- Packing of standard PC board terminal: 50 pcs. in an inner package (carton); 500 pcs. in an outer package.
- Packing of surface-mount terminal: 25 pcs. in an inner package (tube); 200 pcs. in an outer package.
- Packing of surface-mount terminal: 400 pcs. in an inner package (tape and reel); 800 pcs. in an outer package.

Standard PC board terminal	Surface-mount terminal	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)
ARE1303	ARE13A03	3	2.25	0.3	45	66.7	200	3.3
ARE134H	ARE13A4H	4.5	3.375	0.45	101	44.4	200	4.95
ARE1306	ARE13A06	6	4.5	0.6	180	33.3	200	6.6
ARE1309	ARE13A09	9	6.75	0.9	405	22.2	200	9.9
ARE1312	ARE13A12	12	9	1.2	720	16.7	200	13.2
ARE1324	ARE13A24	24	18	2.4	2,880	8.3	200	26.4

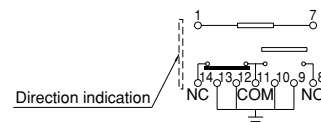
DIMENSIONS

mm inch

1. Standard PC board terminal (75Ω, 50Ω type)

General tolerance: $\pm 0.3 \pm 0.012$

Schematic (Bottom view)

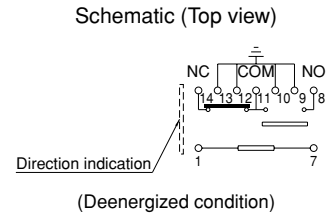
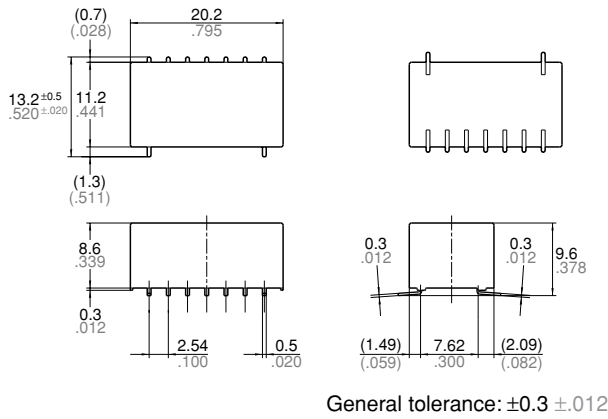


(Deenergized condition)

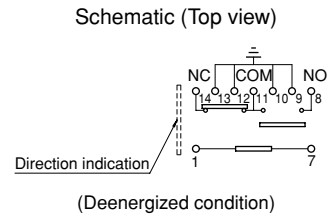
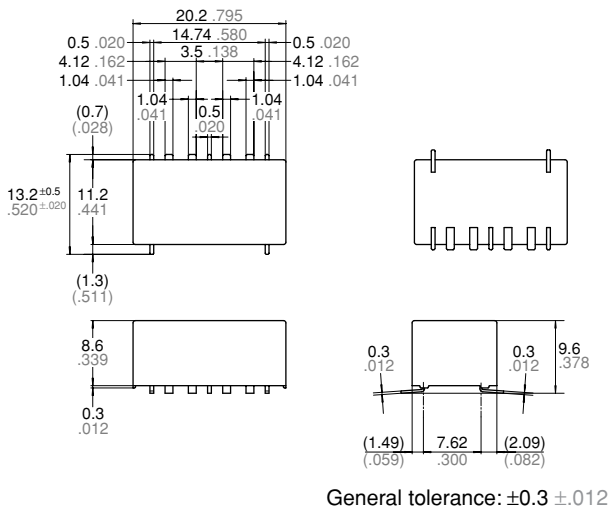
RE (ARE)

2. Surface mount terminal • 75Ω type

mm inch



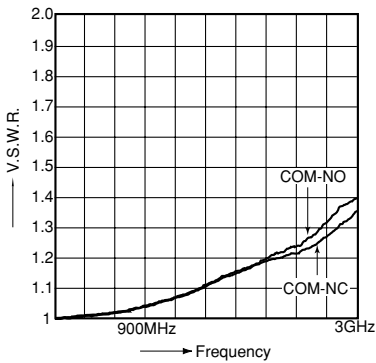
• 50Ω type



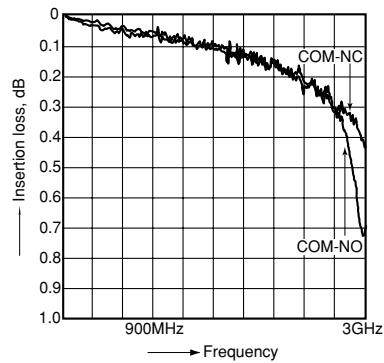
REFERENCE DATA

1-(1). High frequency characteristics (75Ω type) (Standard PC board terminal)

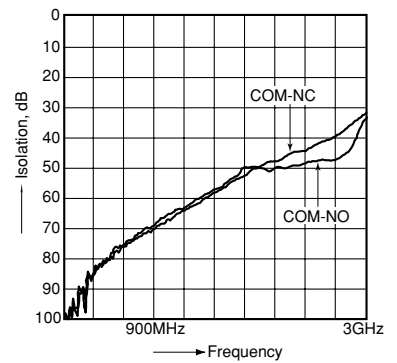
• V.S.W.R. characteristics



• Insertion loss characteristics

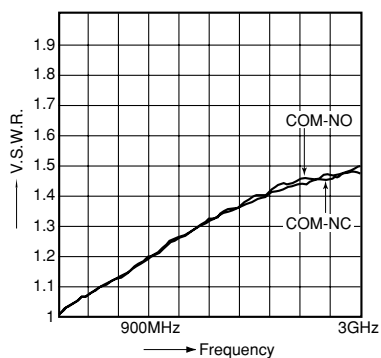


• Isolation characteristics

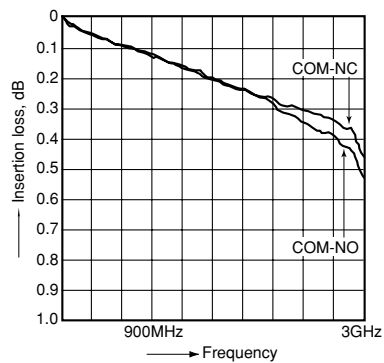


1-(2). High frequency characteristics (50Ω type) (Standard PC board terminal)

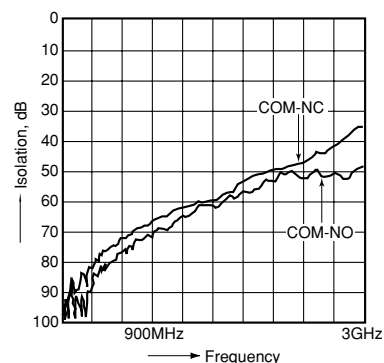
• V.S.W.R. characteristics



• Insertion loss characteristics



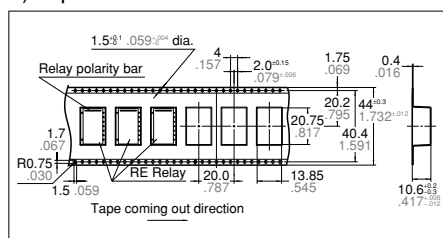
• Isolation characteristics



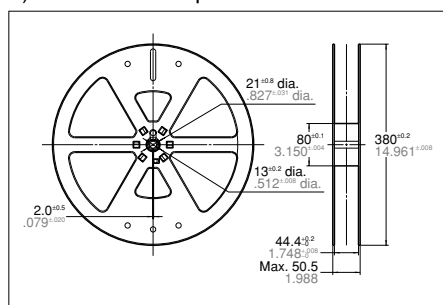
NOTES

1. Packing style

1) Tape dimensions



2) Dimensions of plastic reel



For Cautions for Use, see Relay Technical Information.