

mm inch

### FEATURES

• Excellent high frequency characteristics (Impedance 75Ω)

• Surface-mount terminal type also available

Frequency	900MHz	2.6GHz
V.S.W.R. (Max.)	1.2	1.5
Insertion loss (dB, Max.)	0.2	0.5
Isolation (dB, Min.)	60	30

### SPECIFICATIONS

#### Contact

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) 10mA 24V DC (resistive load)
	Contact carrying power	10W (at 2.6GHz, Impedance 75 Ω, V.S.W.R. Max.1.5)
	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)
	Insertion loss	Max. 0.2 (to 900MHz) Max. 0.5 (to 2.6GHz)
	Isolation	Min. 60dB (to 900MHz) Min. 30dB (to 2.6GHz)
Expected life (min. operations)	Mechanical (at 180 cpm)	10 <sup>6</sup>
	Electrical	1W, 2.6GHz, Impedance 75Ω, V.S.W.R. ≤ 1.5
		10mA 24V DC (resistive load) (at 20cpm)

#### Coil (at 20°C, 68°F)

Nominal operating power	200 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 ground terminal	500 Vrms
Operate time*3 (at 20°C)	Max. 10ms	
Release time (without diode)*3 (at 20°C)	Max. 5ms	
Temperature rise (at 20°C)*4	Max. 60°C	
Shock resistance	Functional*5	Min. 500 m/s <sup>2</sup> {50 G}
	Destructive*6	Min. 1,000 m/s <sup>2</sup> {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 60°C -40°F to 140°F
	Humidity	5 to 85% R.H.
Unit weight	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
- \*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 5. Conditions for operation, transport and storage mentioned in NOTES

### TYPICAL APPLICATIONS

#### Broadcasting market

- Set Top Box (CS/BS tuner, CATV tuner)
- Multi-function TV
- Measuring instruments for broadcasting

### ORDERING INFORMATION

Ex. ARE 1 3      

Contact arrangement	Operating function	Terminal shape	Coil voltage (DC)	Packing style
1: 1 Form C	3: Single side stable type	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 (PC board terminal) Tube (Surface-mount terminal) Z: Tape and reel packing (picked from 1/7 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)

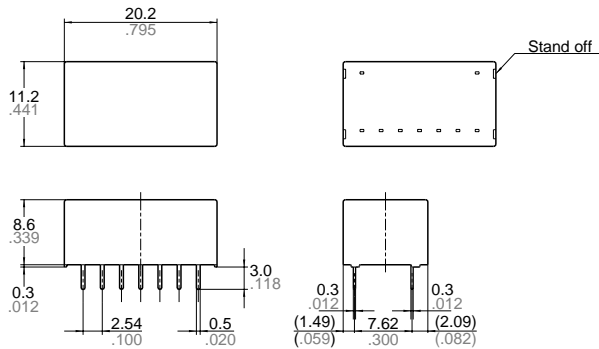
- Packing of standard PC board terminal: 50 pcs. in an inner package (carton); 500 pcs. in an outer package
- Packing of surface-mount terminal: 25 pcs. in an inner package (tube); 200 pcs. in an outer package  
400 pcs. in an inner package (tape and reel); 800 pcs. in an outer package

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
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

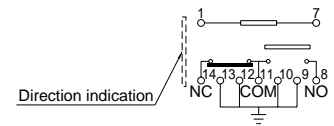
## DIMENSIONS

mm inch

### 1. Standard PC board terminal



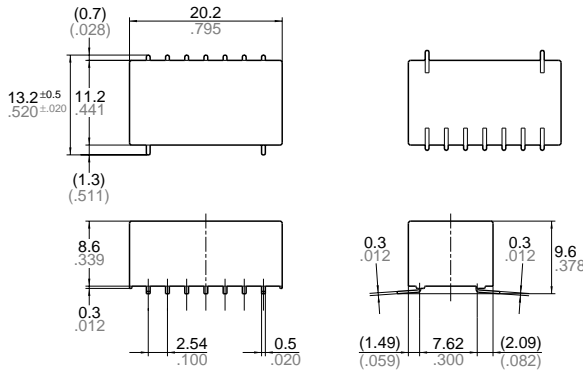
Schematic (Bottom view)



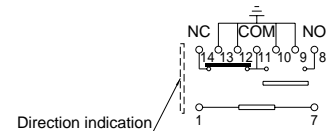
(Deenergized condition)

General tolerance: ±0.3 ±.012

### 2. Surface mount terminal



Schematic (Top view)



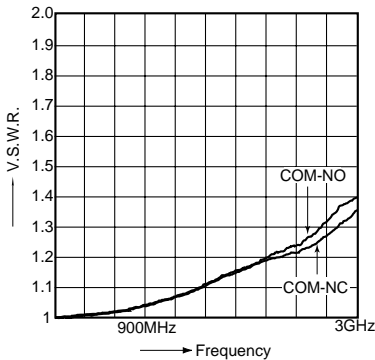
(Deenergized condition)

General tolerance: ±0.3 ±.012

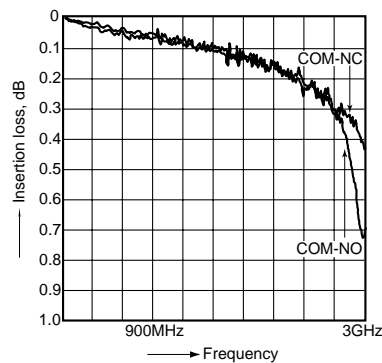
## REFERENCE DATA

### 1. High frequency characteristics (Standard PC board terminal)

- V.S.W.R. characteristics



- Insertion loss characteristics



- Isolation characteristics

