FUJITSU THE POSSIBILITIES ARE INFINITE

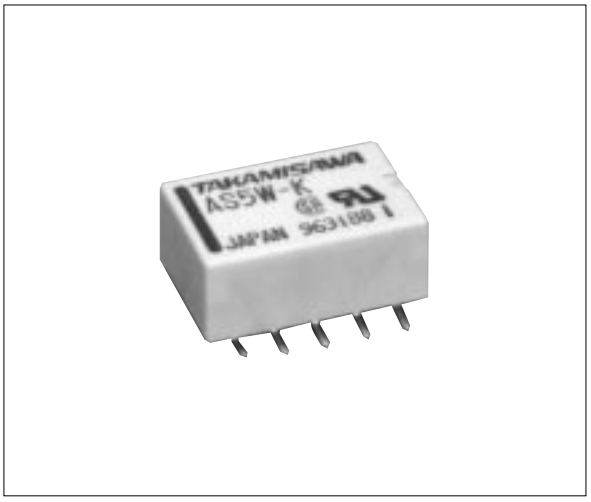
MINIATURE RELAY

2 POLES—1 to 2 A (FOR SIGNAL SWITCHING)

AS SERIES

■ FEATURES

- Flat type relay for surface mounting
- Super small and light weight
  —Height: 6.5 mm
  —Weight: approximately 1.5 g
- UL, CSA recognized
- Conforms to FCC Part 68
  —Surge strength 1,500 V
- High sensitivity and low power consumption
- High reliability—Bifurcated contacts
- DIL pitch terminals
- Plastic sealed type



NOT FOR NEW DESIGNS

■ ORDERING INFORMATION

[Example] AS (a) L (b) – (*) D (c) 12 (d) W (e) – (*) K (f) – (*) B (g) 05 (h)

(a)	Series Name	AS : AS Series
(b)	Operation Function	Nil : Standard type L : Latching type
(c)	Number of Coil	S : Single winding type D : Double winding type
(d)	Nominal Voltage	Refer to the COIL DATA CHART
(e)	Contact	W : Bifurcated type
(f)	Enclosure	K : Plastic sealed type
(g)	Packing Orientation	B : Standard type
(h)	Packing Quantity	05 : 500 pieces

Note: Actual marking omits the hyphen (-) of (*) and “-B05”

■ SAFETY STANDARD AND FILE NUMBERS

UL478, 508 (File No. E45026)
C22.2 No. 14 (File No. LR35579)
Only UL/CSA approval markings are marked on the cover.

Nominal voltage	Contact rating
1.5 to 48 VDC	0.5 A 125 VAC 2 A 30 VDC 0.3 A 110 VDC resistive

■ SPECIFICATIONS

Item			Standard Type	Single Winding Latching Type	Double Winding Latching Type
			AS-( ) W-K	ASL-( ) W-K	ASL-D ( ) W-K
Contact	Arrangement		2 Form C (DPDT)		
	Material		Gold overlay silver alloy		
	Style		Bifurcated		
	Resistance (initial)		Maximum 50 mΩ (at 1 A 6 VDC)		
	Rating (resistive)		0.5 A 125 VAC or 1 A 30 VDC		
	Maximum Carrying Current		2 A		
	Maximum Switching Power		62.5 AV, 30 W		
	Maximum Switching Voltage		250 VAC, 220 VDC		
	Maximum Switching Current		2 A		
	Minimum Switching Load*1		0.01 mA 10 mVDC		
	Capacitance (at 1 kHz)		Approximately 0.5 pF (between open contacts, adjacent contacts) Approximately 1.0 pF (between coil and contacts)		
Coil	Nominal Power (at 20°C)		0.14 to 0.3 W	0.1 to 0.15 W	0.20 to 0.3 W
	Operate Power (at 20°C)		0.08 to 0.17 W	0.06 to 0.085 W	0.11 5 to 0.17 W
	Operating Temperature		–40°C to +85°C (no frost) (refer to the CHARACTERISTIC DATA)		
Time Value	Operate (at nominal voltage)		Maximum 6 ms	Maximum 6 ms (set)	
	Release (at nominal voltage)		Maximum 4 ms	Maximum 6 ms (reset)	
Insulation	Resistance (at 500 VDC)		Minimum 1,000 MΩ		
	Dielectric Strength	between open contacts	750 VAC 1 minute		
		between adjacent contacts	1,000 VAC 1 minute		
		between coil and contacts	1,000 VAC 1 minute		
	Surge Strength		1,500 V (at 10×160 μs) (between coil and contacts)		
Life	Mechanical		1×10^8 operations minimum	1×10^7 operations minimum	
	Electrical		2×10^5 ops. min. (0.5 A 125 VAC), 5×10^5 ops. min. (1 A 30 VDC)		
Other	Vibration Resistance	Misoperation	10 to 55 Hz (double amplitude of 3.3 mm)		
		Endurance	10 to 55 Hz (double amplitude of 5.0 mm)		
	Shock Resistance	Misoperation	500 m/s^2 (11 ±1 ms)		
		Endurance	1,000 m/s^2 (6 ±1 ms)		
	Weight		Approximately 1.5 g		

*1 Minimum switching loads mentioned above are reference values. Please perform the confirmation test with the actual load before production since reference values may vary according to switching frequencies, environmental conditions and expected reliability levels.

NOT FOR NEW DESIGNS

■ COIL DATA CHART

MODEL		Nominal voltage	Coil resistance (±10%)	Must operate voltage*1	Must release voltage*1	Nominal power
Standard Type	AS-1.5 W-K	1.5 VDC	16.1Ω	+1.13 VDC	+0.15 VDC	140 mW
	AS- 3 W-K	3 VDC	64.3Ω	+2.25 VDC	+0.3 VDC	140 mW
	AS-4.5 W-K	4.5 VDC	145Ω	+3.38 VDC	+0.45 VDC	140 mW
	AS- 5 W-K	5 VDC	178Ω	+3.75 VDC	+0.5 VDC	140 mW
	AS- 6 W-K	6 VDC	257Ω	+4.5 VDC	+0.6 VDC	140 mW
	AS- 9 W-K	9 VDC	579Ω	+6.75 VDC	+0.9 VDC	140 mW
	AS- 12 W-K	12 VDC	1,028Ω	+9.0 VDC	+1.2 VDC	140 mW
	AS- 18 W-K	18 VDC	1,620Ω	+13.5 VDC	+1.8 VDC	200 mW
	AS- 24 W-K	24 VDC	2,880Ω	+18.0 VDC	+2.4 VDC	200 mW
	AS- 48 W-K	48 VDC	7,680Ω	+36.0 VDC	+4.8 VDC	300 mW

Note: *1 Specified values are subject to pulse wave voltage.
All values in the table are measured at 20°C.

MODEL		Nominal voltage	Coil resistance (±10%)	Set voltage*1	Reset voltage*1	Nominal power
Single Winding Latching Type	ASL-1.5 W-K	1.5 VDC	22.5Ω	+1.13 VDC	-1.13 VDC	100 mW
	ASL- 3 W-K	3 VDC	90Ω	+2.25 VDC	-2.25 VDC	100 mW
	ASL-4.5 W-K	4.5 VDC	203Ω	+3.38 VDC	-3.38 VDC	100 mW
	ASL- 5 W-K	5 VDC	250Ω	+3.75 VDC	-3.75 VDC	100 mW
	ASL- 6 W-K	6 VDC	360Ω	+4.5 VDC	-4.5 VDC	100 mW
	ASL- 9 W-K	9 VDC	810Ω	+6.75 VDC	-6.75 VDC	100 mW
	ASL- 12 W-K	12 VDC	1,440Ω	+9.0 VDC	-9.0 VDC	100 mW
	ASL- 18 W-K	18 VDC	2,160Ω	+13.5 VDC	-13.5 VDC	150 mW
	ASL- 24 W-K	24 VDC	3,840Ω	+18.0 VDC	-18.0 VDC	150 mW
Double Winding Latching Type	ASL-D1.5 W-K	1.5 VDC	P 11.25Ω	+1.13 VDC		200 mW
			S 11.25Ω		+1.13 VDC	
	ASL-D 3 W-K	3 VDC	P 45Ω	+2.25 VDC		200 mW
			S 45Ω		+2.25 VDC	
	ASL-D4.5 W-K	4.5 VDC	P 101Ω	+3.38 VDC		200 mW
			S 101Ω		+3.38 VDC	
	ASL-D 5 W-K	5 VDC	P 125Ω	+3.75 VDC		200 mW
			S 125Ω		+3.75 VDC	
	ASL-D 6 W-K	6 VDC	P 180Ω	+4.5 VDC		200 mW
			S 180Ω		+4.5 VDC	
	ASL-D 9 W-K	9 VDC	P 405Ω	+6.75 VDC		200 mW
			S 405Ω		+6.75 VDC	
	ASL-D 12 W-K	12 VDC	P 720Ω	+9.0 VDC		200 mW
			S 720Ω		+9.0 VDC	
	ASL-D 18 W-K	18 VDC	P 1,080Ω	+13.5 VDC		300 mW
			S 1,080Ω		+13.5 VDC	
	ASL-D 24 W-K	24 VDC	P 1,920Ω	+18.0 VDC		300 mW
			S 1,920Ω		+18.0 VDC	

Note: *1 Specified values are subject to pulse wave voltage. P: Primary coil S: Secondary coil
All values in the table are measured at 20°C.

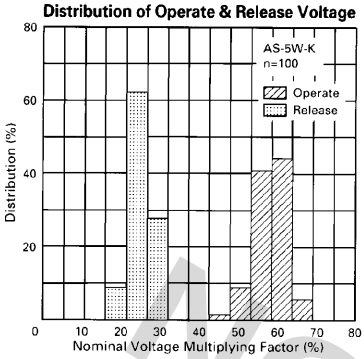
NOT FOR NEW DESIGNS

■ CHARACTERISTIC DATA

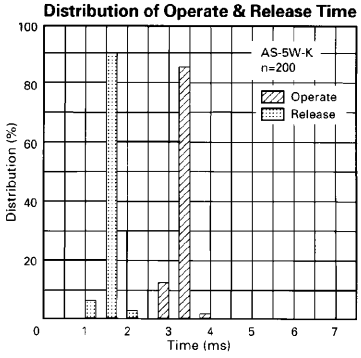
Please see A relays.

■ REFERENCE DATA

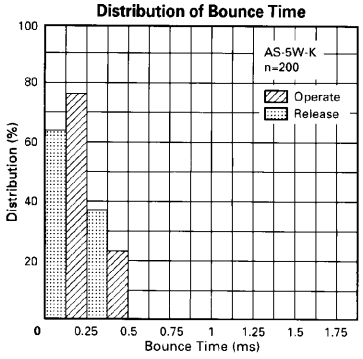
Distribution of Operate & Release Voltage



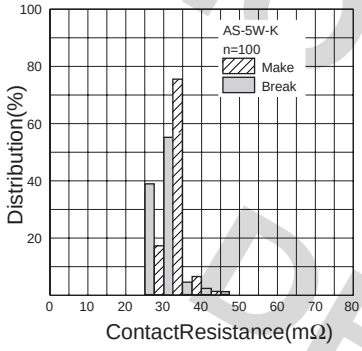
Distribution of Operate & Release Time



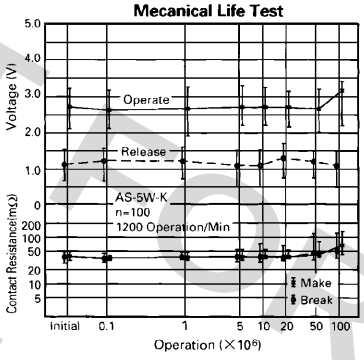
Distribution of Bounce Time



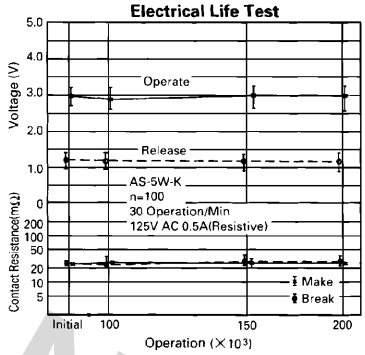
Distribution of Contact Resistance



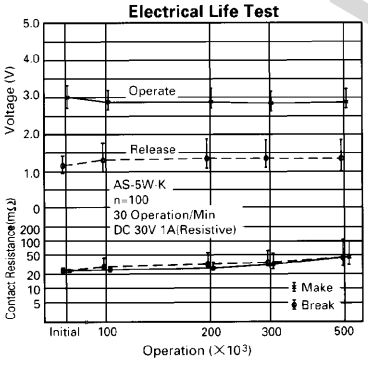
Mecanical Life Test



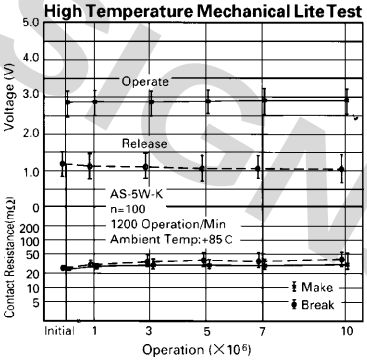
Electrical Life Test



Electrical Life Test



High Temperature Mechanical Lite Test



PDF OF NEW DESIGNS

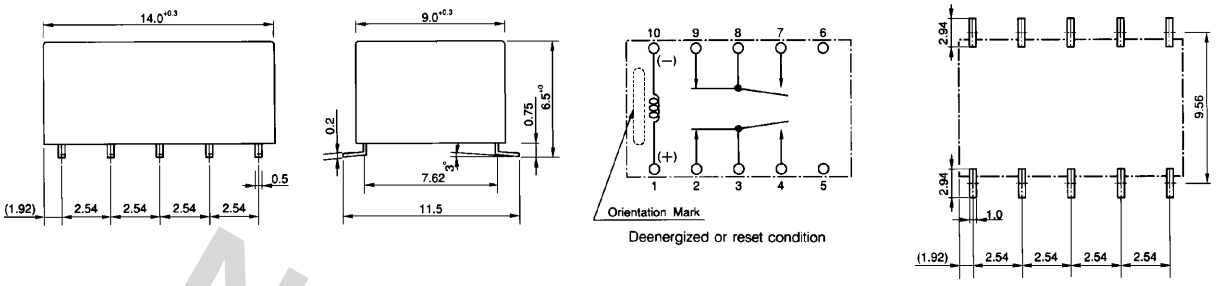
■ DIMENSIONS

● Dimensions

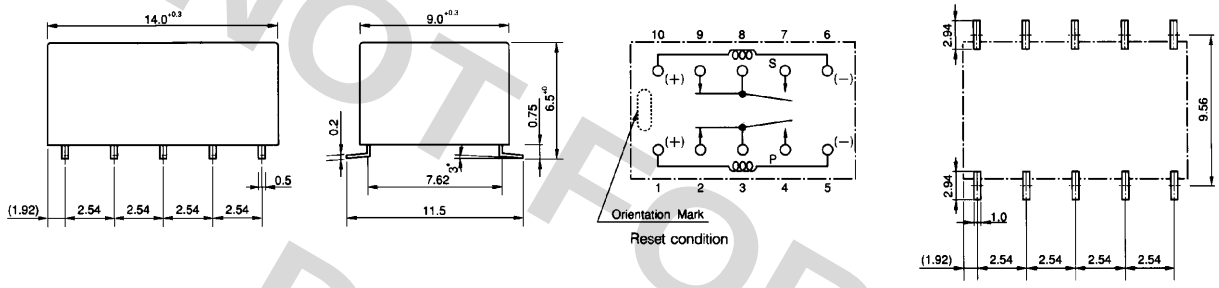
● **Schematics** (TOP VIEW)

● **PC board mounting pad layout** (TOP VIEW)

AS, ASL type (Non-latching type, single winding latching type)



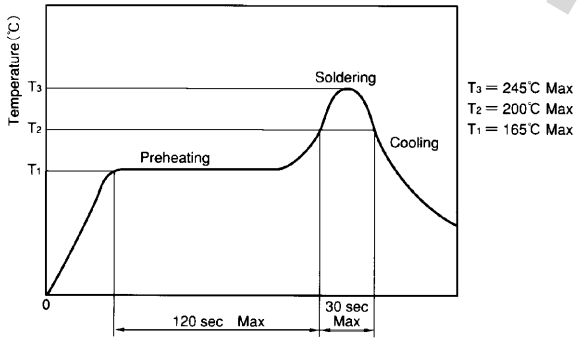
ASL-D type (Double winding latching type)



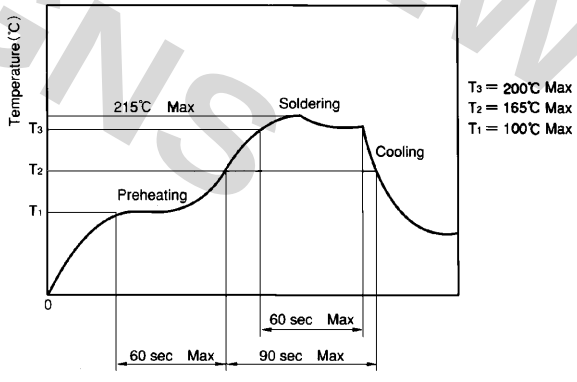
Unit: mm

■ RECOMMENDED SOLDERING CONDITIONS (TEMPERATURE PROFILE)

IRS (Infrared Reflow Soldering)



VPS (Vapor Phase Soldering)



Note: 1. Temperature profiles show the temperature of the PC board surface.

2. Please perform soldering test with your actual PC board before mass production, since the temperatures of PC board surfaces vary according to the size of PC board, status of parts mounting and heating method.

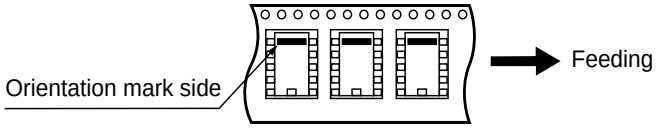
NOT FOR NEW DESIGNS

■ PACKING

(1) PACKING METHOD (ONLY TAPE PACKING IS AVAILABLE)

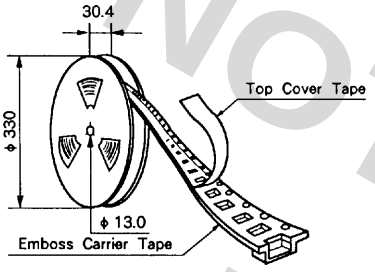
- Taping standards : JIS C 0806 and RC - 1009B (EIAJ)
- Tape type : TB2416 or TE2416
- Reel type : R24D
- Quantity of 1 reel : 500 pieces

• Packing orientation code : B

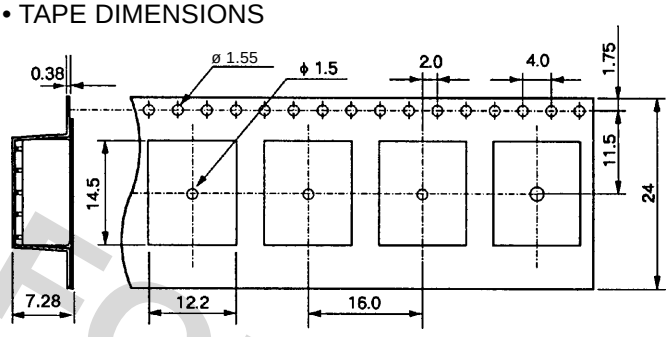


(2) DIMENSIONS (in mm)

• REEL DIMENSIONS



• TAPE DIMENSIONS



Note: Relays are sold in packs of 500 pieces, please order 500 pieces as one unit.

NOT FOR NEW DESIGNS

Fujitsu Components International Headquarter Offices

Japan
Fujitsu Component Limited
Gotanda-Chuo Building
3-5, Higashigotanda 2-chome, Shinagawa-ku
Tokyo 141, Japan
Tel: (81-3) 5449-7010
Fax: (81-3) 5449-2626
Email: promothq@ft.ed.fujitsu.com
Web: www.fcl.fujitsu.com

North and South America
Fujitsu Components America, Inc.
250 E. Caribbean Drive
Sunnyvale, CA 94089 U.S.A.
Tel: (1-408) 745-4900
Fax: (1-408) 745-4970
Email: marcom@fcai.fujitsu.com
Web: www.fcai.fujitsu.com

Europe
Fujitsu Components Europe B.V.
Diamantlaan 25
2132 WV Hoofddorp
Netherlands
Tel: (31-23) 5560910
Fax: (31-23) 5560950
Email: info@fceu.fujitsu.com
Web: www.fceu.fujitsu.com

Asia Pacific
Fujitsu Components Asia Ltd.
102E Pasir Panjang Road
#04-01 Citilink Warehouse Complex
Singapore 118529
Tel: (65) 375-8560
Fax: (65) 273-3021
Email: fcal@fcal.fujitsu.com
www.fcal.fujitsu.com

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