

MINIATURE RELAY

2 POLES (HIGH FREQUENCY SIGNAL SWITCHING)

UR1 SERIES

■ FEATURES

- Subminiature polarized relay
- Excellent high frequency characteristics
 - Isolation : minimum 60 dB
 - Insertion loss: maximum 1 dB
 - V.S.W.R. : maximum 1.2
 } at 900 MHz
(Impedance of the measuring devices is 75Ω)
- High reliability—Bifurcated contacts
- Wide operating range
- DIL pitch terminals
- Plastic sealed type backfilled with nitrogen
- Latching type available

■ ORDERING INFORMATION

[Example] $\frac{UR1}{(a)}$ $\frac{L}{(b)}$ — $\frac{D}{(c)}$ $\frac{12}{(d)}$ $\frac{W}{(e)}$ — $\frac{K}{(f)}$

(a)	Series Name	UR1: UR1 series
(b)	Operation Function	Nil : Standard type L : Latching type
(c)	Number of Coil	Nil : 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

UR1 SERIES

■ SPECIFICATIONS

Item			Standard Type	Single Winding Latching Type	Double Winding Latching Type
			UR1-() W-K	UR1L-() W-K	UR1L-D () W-K
Contact	Arrangement		2 form C (DPDT)		
	Material		Gold clad (stationary contact), gold plate (movable contact)		
	Style		Bifurcated		
	Resistance (initial)		Maximum 100 mΩ		
	Rating (resistive)		10 mA 24 VDC 1 W (at 900 MHz)		
	Maximum Carrying Current		0.5 A		
	Maximum Switching Power		1 W (DC) 10 W (at 900 MHz)		
	Maximum Switching Voltage		30 VDC		
	Maximum Switching Current		100 mA		
	Minimum Switching Load*1		0.01 mA 10 mVDC		
	Excellent High Frequency Characteristics	Isolation		Minimum 60 dB(at 900 MHz), impedance of the measuring devices is 75Ω	
Insertion Loss		Maximum 1 dB(at 900 MHz), impedance of the measuring devices is 75Ω			
V.S.W.R.		Maximum 1.2(at 900 MHz), impedance of the measuring devices is 75Ω			
Coil	Nominal Power (at 20°C)		0.36 to 0.43 W	0.25 W	0.5 to 0.55 W
	Operate Power (at 20°C)		0.18 to 0.2 W	0.125 W	0.25 to 0.27 W
	Operating Temperature		-30°C to +80°C no frost)		-30°C to +70°C (no frost)
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 between contacts and shield terminals	500 VAC 1 minute		
		between coil and con- acts between coil and shield terminals	1,000 VAC 1 minute		
Life	Mechanical		1 × 10 ⁶ operations minimum		
	Electrical		3 × 10 ⁵ operations minimum (contact rating)		
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 7 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.

■ COIL DATA CHART

MODEL		Nominal voltage	Coil resistance ($\pm 10\%$)	Must operate voltage* ¹	Must release voltage* ¹	Nominal power
Standard Type	UR1- 1.5 W-K	1.5 VDC	5.3 Ω	+1.05 VDC	+0.08 VDC	425 mW
	UR1- 3 W-K	3 VDC	25 Ω	+2.1 VDC	+0.15 VDC	360 mW
	UR1- 4.5 W-K	4.5 VDC	56.3 Ω	+3.15 VDC	+0.23 VDC	360 mW
	UR1- 5 W-K	5 VDC	69.5 Ω	+3.5 VDC	+0.25 VDC	360 mW
	UR1- 6 W-K	6 VDC	100 Ω	+4.2 VDC	+0.3 VDC	360 mW
	UR1- 9 W-K	9 VDC	225 Ω	+6.3 VDC	+0.45 VDC	360 mW
	UR1- 12 W-K	12 VDC	400 Ω	+8.4 VDC	+0.6 VDC	360 mW
	UR1- 18 W-K	18 VDC	900 Ω	+12.6 VDC	+0.9 VDC	360 mW
	UR1- 24 W-K	24 VDC	1,600 Ω	+16.8 VDC	+1.2 VDC	360 mW
	UR1- 48 W-K	48 VDC	5,900 Ω	+33.6 VDC	+2.4 VDC	390 mW

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

NOT FOR NEW DESIGNS

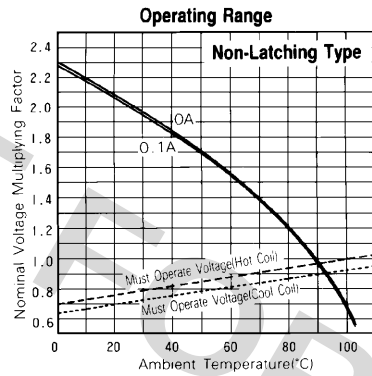
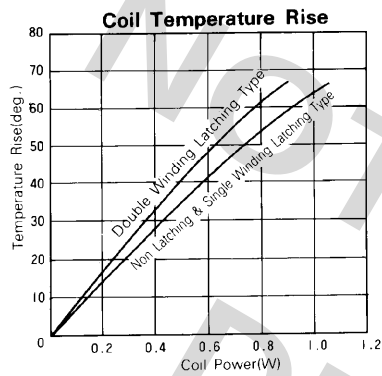
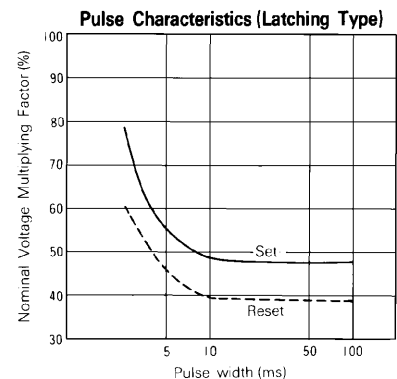
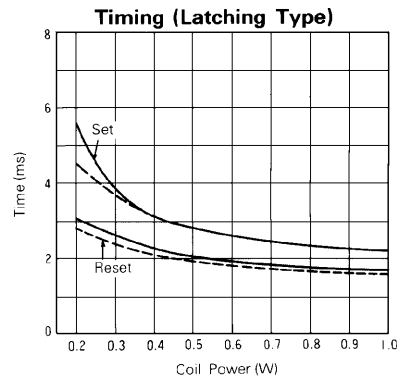
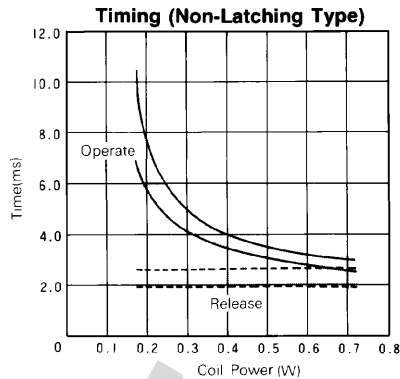
UR1 SERIES

MODEL		Nominal Voltage	Coil Resistance ($\pm 10\%$)	Set Voltage* ¹	Reset Voltage* ¹	Nominal Power
Single Winding Latching Type	UR1L- 1.5 W-K	1.5 VDC	9 Ω	+1.05 VDC	-1.05 VDC	250 mW
	UR1L- 3 W-K	3 VDC	36 Ω	+2.1 VDC	-2.1 VDC	250mW
	UR1L- 4.5 W-K	4.5 VDC	80 Ω	+3.15 VDC	-3.15 VDC	250 mW
	UR1L- 5 W-K	5 VDC	100 Ω	+3.5 VDC	-3.5 VDC	250 mW
	UR1L- 6 W-K	6 VDC	144 Ω	+4.2 VDC	-4.2 VDC	250 mW
	UR1L- 9 W-K	9 VDC	324 Ω	+6.3 VDC	-6.3 VDC	250 mW
	UR1L- 12 W-K	12 VDC	576 Ω	+8.4 VDC	-8.4 VDC	250 mW
	UR1L- 18 W-K	18 VDC	1,296 Ω	+12.6 VDC	-12.6 VDC	250 mW
	UR1L- 24 W-K	24 VDC	2,304 Ω	+16.8 VDC	-16.8 VDC	250 mW
	UR1L- 48 W-K	48 VDC	9,216 Ω	+33.6 VDC	-33.6 VDC	250 mW
Double Winding Latching Type	UR1L-D 1.5 W-K	1.5 VDC	P 4.5 Ω	+1.05 VDC		500 mW
			S 4.5 Ω		+1.05 VDC	
	UR1L-D 3 W-K	3 VDC	P 18 Ω	+2.1 VDC		500 mW
			S 18 Ω		+2.1 VDC	
	UR1L-D 4.5 W-K	4.5 VDC	P 40.5 Ω	+3.15 VDC		500 mW
			S 40.5 Ω		+3.15 VDC	
	UR1L-D 5 W-K	5 VDC	P 50 Ω	+3.5 VDC		500 mW
			S 50 Ω		+3.5 VDC	
	UR1L-D 6 W-K	6 VDC	P 72 Ω	+4.2 VDC		500 mW
			S 72 Ω		+4.2 VDC	
	UR1L-D 9 W-K	9 VDC	P 162 Ω	+6.3 VDC		500 mW
			S 162 Ω		+6.3 VDC	
	UR1L-D 12 W-K	12 VDC	P 288 Ω	+8.4 VDC		500 mW
			S 288 Ω		+8.4 VDC	
	UR1L-D 18 W-K	18 VDC	P 648 Ω	+12.6 VDC		500 mW
			S 648 Ω		+12.6 VDC	
	UR1L-D 24 W-K	24 VDC	P 1,152 Ω	+16.8 VDC		500 mW
			S 1,152 Ω		+16.8 VDC	
	UR1L-D 48 W-K	48 VDC	P 4,189 Ω	+33.6 VDC		550 mW
			S 4,189 Ω		+33.6 VDC	

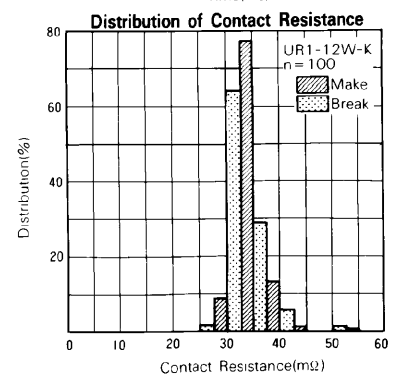
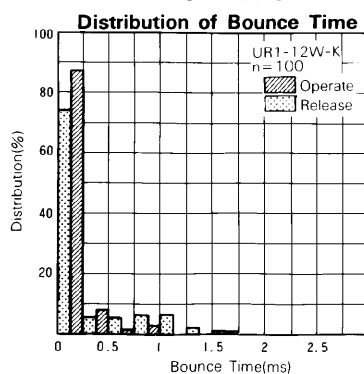
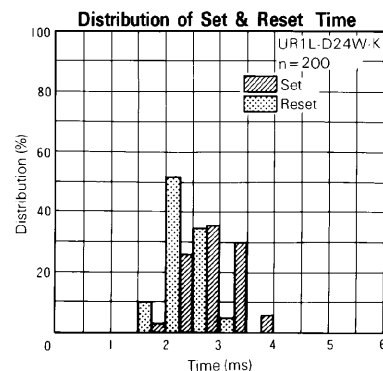
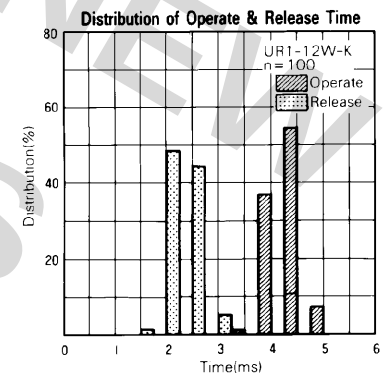
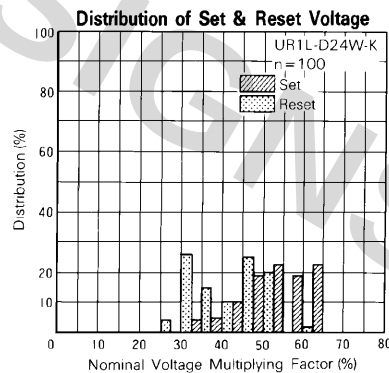
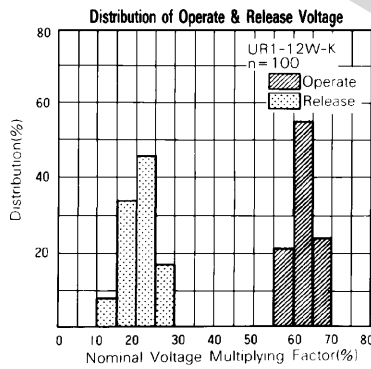
Note: *¹ Specified values are subject to pulse wave voltage.
All values in the table are measured at 20°C.

P: Primary coil S: Secondary coil

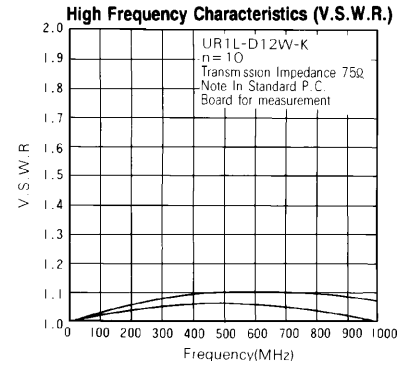
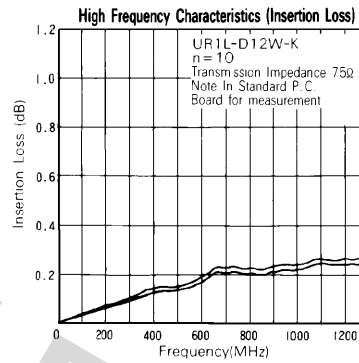
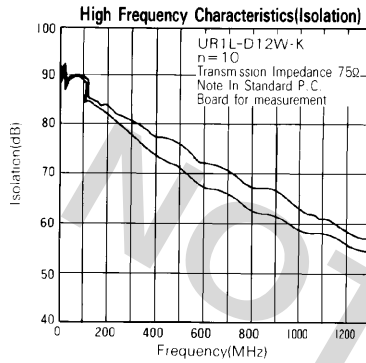
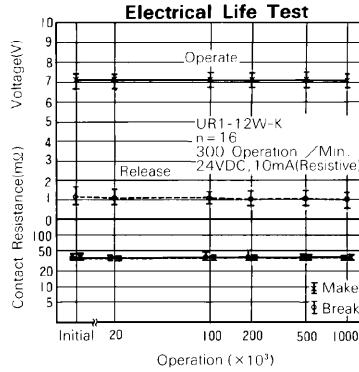
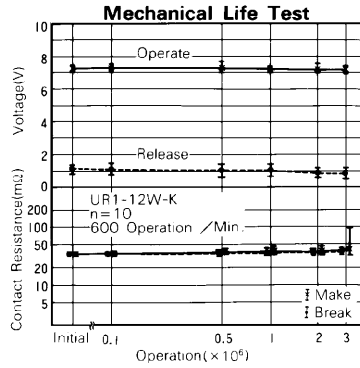
CHARACTERISTIC DATA



REFERENCE DATA



UR1 SERIES



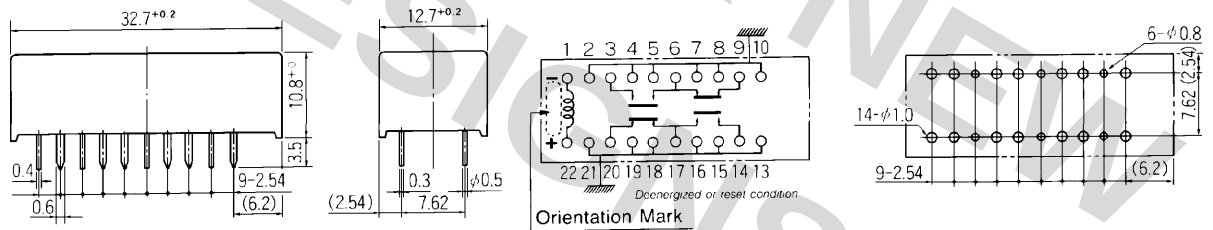
■ DIMENSIONS

● Dimensions

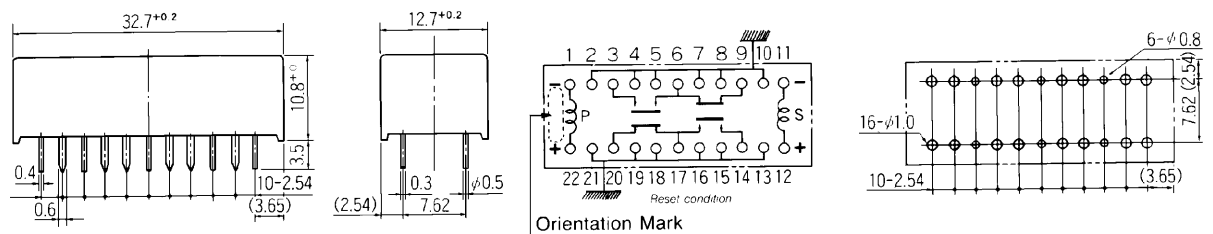
● Schematics (BOTTOM VIEW)

● PC board mounting hole layout (BOTTOM VIEW)

UR1, UR1L, type (Non-latching type, Single winding latching type)



UR1L-D type (Double winding latching type)



Unit: mm

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.marketing@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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