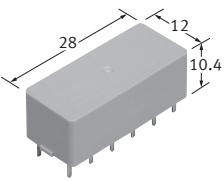
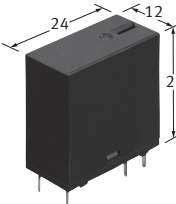
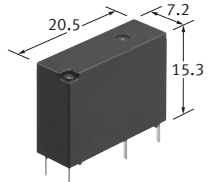
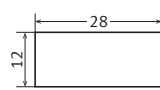
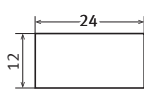
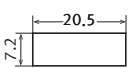
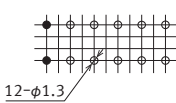
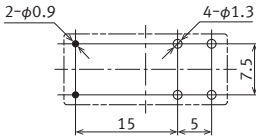
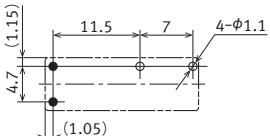
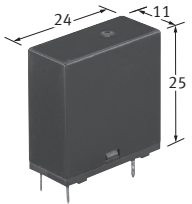
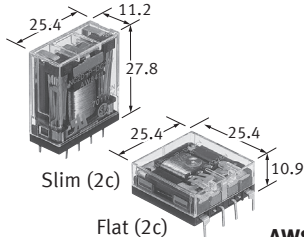
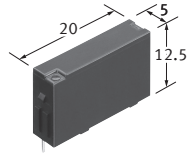
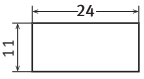
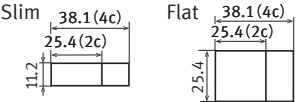
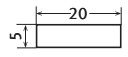
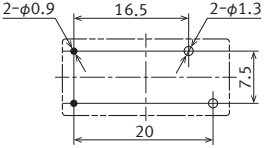
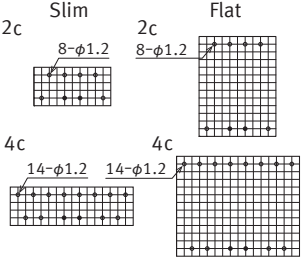
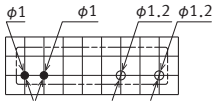


Power Relays (Over 2A) Selector Chart

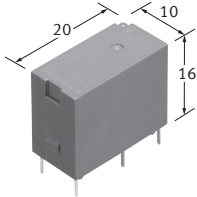
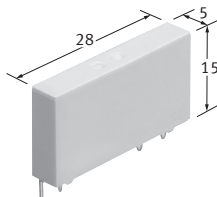
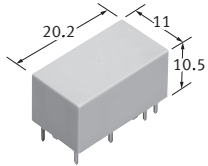
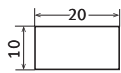
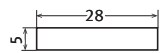
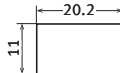
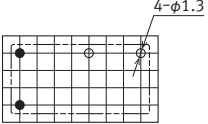
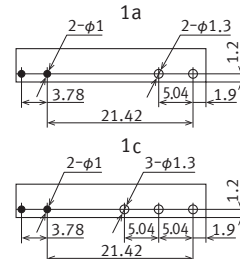
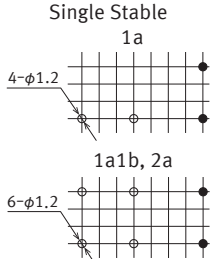
[Order of products: Max.contact rating (small to large)]

Category		Power Relays (Over 2A)			
Product name		S RELAY	LA RELAY	LD-P RELAY	
Type of relay (Height includes standoff unit = mm)					
Initial of part number		AG3	ALA	ALDP	
Features		· 2a2b/3a1b/4a 4A polarized power relays	· TV-4 rated (High capacity type) · 2 Form A 3A/5A power relays	· 1 Form A 5A slim power relays	
Contact data	Contact arrangement	2a2b, 3a1b, 4a	2a		
	Contact shape	Twin	Single		
	Contact material	Double layer contact of AgNi-AgSnO ₂ type +Au clad	AgNi type +Au clad	AgSnO ₂ type	AgNi type
	Contact rating (resistive)	30 A			
		20 A			
		15 A			
		10 A			
8 A					
5 A	4 A 250 V AC 3 A 30 V DC	3 A 125 V AC	5 A 277 V AC	3 A 30 V DC 5 A 277 V AC	
3 A					
Min. switching load (reference value)	100 μA 100 mV DC	100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC	
Max. switching voltage	250 V AC, 48 V DC	125 V AC	277 V AC	277 V AC, 30 V DC	
Latching types availability		●	—	—	
Coil data	Rated coil voltage	3, 5, 6, 12, 24, 48 V DC	12, 24 V DC	5, 6, 9, 12, 18, 24 V DC	
	Rated operating power	200 mW	530 mW	200 mW	
	Operate [Set] voltage (initial)	Max.70% V	Max.75% V	Max.75% V	
	Release [Reset] voltage (initial)	Min.10% V [Max.70% V]	Min.5% V	Min.5% V	
Time Characteristics (initial)	Operate [Set] time (initial)	Max.15 ms	Max.15 ms	Max.10 ms	
	Release [Reset] time (initial)	Max.10 ms [Max.15 ms]	Max.15 ms	Max.10 ms	
Expected life	Mechanical	Min.10 ⁸	Min.10 ⁶	Min.5 x10 ⁶	
	Electrical	Min.10 ⁵ (AC) Min.2 x10 ⁵ (DC)	Min.5 x10 ⁴	Min.2 x10 ⁵ (5 A 125 V AC) Min.10 ⁵ (5 A 250 V AC, 3 A 30 V DC)	
Dielectric strength (initial)	Between open contacts	750 Vrms	1,000 Vrms	750 Vrms	
	Between contact sets	1,000 Vrms	1,000 Vrms	—	
	Between contact and coil	1,500 Vrms	4,000 Vrms	4,000 Vrms	
Surge withstand voltage (between contact and coil) (initial)		—	10,000 V	10,000 V	
Ambient temperature		-55 to +65°C	-40 to +70°C	-40 to +85°C	
Protective construction	Dust cover type	—	—	—	
	Flux-resistant type	—	●	—	
	Sealed type	●	—	●	
Dimensions	Height (mm) Including standoff	10.4	25	15.3	
	Area of base (mm)				
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid					
Safety standards		UL, CSA	UL, CSA, TÜV, VDE	UL/C-UL, VDE, CQC	
Unit weight (Approx.)		8 g	13 g	4 g	
Option		Socket	—	—	
Remarks		—	—	—	

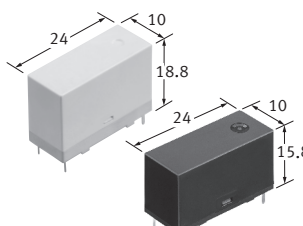
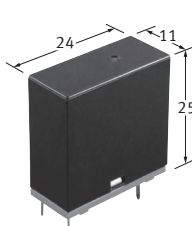
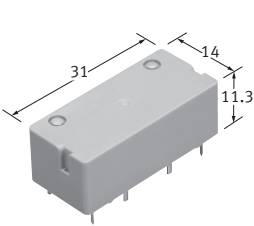
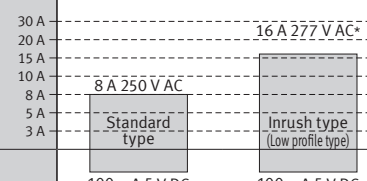
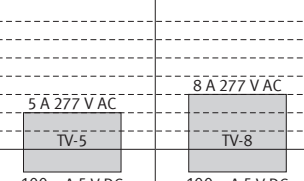
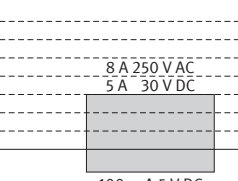
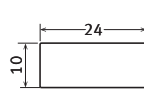
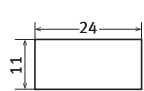
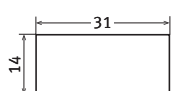
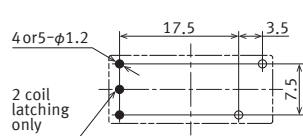
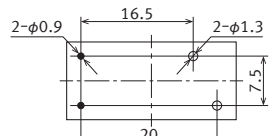
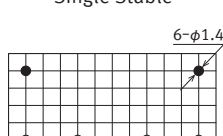
Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)		
Product name		LK-T RELAY	NC RELAY	PA-N RELAY
Type of relay (Height includes standoff unit = mm)				
Initial of part number		ALKT	AW8	APAN3
Features		·TV-8 rated ·1 Form A 8A power relays	·Transistor drive ·2c/4c 5A slim power relays	·1 form A 5A Slim power relay meet IEC61010 reinforced insulation
Contact data	Contact arrangement	1a	2c, 4c	1a
	Contact shape	Single	Twin	Twin
	Contact material	AgSnO ₂ type	AgNi type +Au clad	AgNi type +Au
	Contact rating (resistive)	8 A 277 V AC	2c: 5 A 250 V AC*1 4c: 4 A 250 V AC*1 5 A 30 V DC	5 A 250 V AC 5 A 30 V DC
	Min. switching load (reference value)	100 mA 5 V DC	100 μA 1 V DC	100 μA 100m V DC
	Max. switching voltage	277 V AC	250 V AC, 220 V DC	250 V AC, 110 V DC (0.4 A)
Latching types availability		—	—	—
Coil data	Rated coil voltage	5, 9, 12, 24 V DC	3, 5, 6, 12, 24, 48, 100 V DC	3, 4.5, 5, 6, 9, 12, 18, 24 V DC
	Rated operating power	250 mW	360 mW (2c)*2, 720 mW (4c)	110 mW
	Operate [Set] voltage (initial)	Max.70% V	Max.80% V	Max.70% V
	Release [Reset] voltage (initial)	Min.10% V	Min.10% V	Min.5% V
Time Characteristics (initial)	Operate [Set] time (initial)	Max.15 ms	Max.20 ms	Max.10 ms
	Release [Reset] time (initial)	Max.5 ms	Max.10 ms	Max.5 ms
Expected life	Mechanical	Min.10 ⁶	Min.5 x10 ⁷	2 x10 ⁷
	Electrical	Min.10 ⁵ (5 A 277 V AC) Min.5 x10 ⁴ (8 A 277 V AC)	Min.10 ⁵ (AC) Min.5 x10 ⁵ (DC)	10 ⁵ (3 A 250 V AC, 30 V DC) 5 x10 ⁴ (5 A 250 V AC, 30 V DC)
Dielectric strength (initial)	Between open contacts	1,000 Vrms	1,000 Vrms	1,000 Vrms
	Between contact sets	—	1,000 Vrms	—
	Between contact and coil	4,000 Vrms	2,000 Vrms	3,000 Vrms
Surge withstand voltage (between contact and coil) (initial)		10,000 V	—	6,000 V
Ambient temperature		-40 to +70°C	-40 to +70°C (2c)*2 -40 to +55°C (4c)	-40 to +90°C
Protective construction	Dust cover type	—	●	—
	Flux-resistant type	●	—	—
	Sealed type	—	●	●
Dimensions	Height (mm) Including standoff	25	27.8 (Slim), 10.9 (Flat)	12.5
	Area of base (mm)			
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid				
Safety standards		UL/C-UL, TÜV, SEMKO, VDE, CQC	UL, CSA	UL/C-UL, TÜV
Unit weight (Approx.)		12 g	16 g (2c), 19 g (4c: slim), 18 g (4c: Flat)	3 g
Option		—	Socket, Terminal socket	Socket
Remarks		—	*1: Dust cover *2: Min.48 V DC	—

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)		
Product name		PQ RELAY	PF RELAY	DS-P RELAY
Type of relay (Height includes standoff unit = mm)				
Initial of part number		APQ3	APF	AGP
Features		· 1 Form A 5A small size power relay for interface	· Compliant with European standards · 1a/1c 6A Slim power relays	· 1a 8A (AC) 1a1b/2a 5A (DC) small polarized power relays
Contact data	Contact arrangement	1a	1a, 1c	1a 1a1b, 2a
	Contact shape	Twin	Single	Single
	Contact material	AgNi type +Au clad	AgNi type, AgNi type +Au plated	AgSnO ₂ type +Au flashed
	Contact rating (resistive)	30 A 20 A 15 A 10 A 8 A 5 A 3 A	6 A 250 V AC 6 A 250 V DC	8 A 250 V AC 5 A 30 V AC 5 A 250 V AC 5 A 30 V DC
	Min. switching load (reference value)	100 μA 100mV DC	No Au plating type 100 mA 5 V DC Au plating type 1 mA 1 V DC	10 mA 5 V DC 10 mA 5 V DC
	Max. switching voltage	250 V AC, 110 V DC (0.3 A)	250 V AC	250 V AC, 125 V DC (0.2 A)
Latching types availability		—	—	●
Coil data	Rated coil voltage	3, 5, 6, 9, 12, 18, 24V DC	4.5, 5, 6, 9, 12, 18, 24, 48, 60 V DC	3, 5, 6, 9, 12, 24 V DC
	Rated operating power	200 mW	170 mW (4.5 to 24 V DC) 217 mW (48 V DC), 175 mW (60 V DC)	300 mW
	Operate [Set] voltage (initial)	Max.75% V	Max.70% V	Max.80% V
	Release [Reset] voltage (initial)	Min.5% V	Min.5% V	Min.10% V [Max.80% V]
Time Characteristics (initial)	Operate [Set] time (initial)	Max.20 ms	Max.8 ms	Max.10 ms
	Release [Reset] time (initial)	Max.10 ms	Max.4 ms	Max.5 ms [Max.10 ms]
Expected life	Mechanical	2 x 10 ⁷	Min.5 x 10 ⁶	Min.5 x 10 ⁷
	Electrical	Min.2 x 10 ⁵ (5 A 125 V AC) Min.10 ⁵ (5 A 250 V AC, 5 A 30 V DC)	Min.5 x 10 ⁴ (Form A) Min.3 x 10 ⁴ (Form B)	Min.10 ⁵
Dielectric strength (initial)	Between open contacts	1,000 Vrms	1,000 Vrms	1,000 Vrms
	Between contact sets	—	—	— 2,000 Vrms
	Between contact and coil	4,000 Vrms	4,000 Vrms	3,000 Vrms
Surge withstand voltage (between contact and coil) (initial)		8,000 V	6,000 V	5,000 V
Ambient temperature		-40 to +70°C	-40 to +85°C	-40 to +60°C (1a, 2a) -40 to +65°C (1a1b)
Protective construction	Dust cover type	—	—	—
	Flux-resistant type	—	—	—
	Sealed type	●	●	●
Dimensions	Height (mm) Including standoff	16	15	10.5
	Area of base (mm)			
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid				
Safety standards		UL, CSA, VDE	UL/C-UL, VDE	UL, CSA, TÜV
Unit weight (Approx.)		7 g	5 g	4.5 g
Option		Socket	—	Socket
Remarks		—	—	—

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)						
Product name		DW RELAY		LK-Q RELAY		ST RELAY		
Type of relay (Height includes standoff unit = mm)								
Initial of part number		ADW		ALKQ		AR2		
Features		· 1 Form A 8A/16A (TV-8 rated)*, small polarized power relays		· TV-5/TV-8 rated · 1 Form A 5A/8A silent type power relays		· TV-3 rated · 1a1b/2a 8A polarized power relays		
Contact data	Contact arrangement	1a		1a		1a1b, 2a		
	Contact shape	Single		Single		Single		
	Contact material	AgSnO ₂ type		AgSnO ₂ type		AgSnO ₂ type +Au flashed		
	Contact rating (resistive)							
	Min. switching load (reference value)	100 mA 5 V DC		100 mA 5 V DC		100 mA 5 V DC		
Max. switching voltage	250 V AC		277 V AC		277 V AC		250 V AC, 30 V DC	
Latching types availability		● (Latching type only)		—		●		
Coil data	Rated coil voltage	3, 5, 6, 9, 12, 24 V DC		5, 9, 12, 24 V DC		3, 5, 6, 9, 12, 24, 48 V DC		
	Rated operating power	200 mW (1 coil latching) 400 mW (2 coil latching)		250 mW		Approx 240 mW		
	Operate [Set] voltage (initial)	Max.80% V		Max.80% V		Max.80% V		
	Release [Reset] voltage (initial)	Max.80% V		Min.10% V		Min.10% V [Max.80% V]		
Time Characteristics (initial)	Operate [Set] time (initial)	Max.15 ms		Max.15 ms		Max.15 ms		
	Release [Reset] time (initial)	Max.15 ms		Max.5 ms		Max.10 ms [Max.15 ms]		
Expected life	Mechanical	Min.10 ⁶		Min.10 ⁶		Min.10 ⁷		
	Electrical	Min.5 x10 ⁴ Min.2 x10 ⁴		Min.10 ⁵ Min.5 x10 ⁴		Min.10 ⁵ (8 A 250 V AC)		
Dielectric strength (initial)	Between open contacts	1,000 Vrms		1,000 Vrms		1,200 Vrms		
	Between contact sets	—		—		2,000 Vrms		
	Between contact and coil	5,000 Vrms		4,000 Vrms		3,750 Vrms		
Surge withstand voltage (between contact and coil) (initial)		12,000 V		10,000 V		6,000 V		
Ambient temperature		-40 to +85°C (Max.8 A) -40 to +70°C (Max.8 to 16 A)		-40 to +70°C		-40 to +60°C		
Protective construction	Dust cover type	—		—		—		
	Flux-resistant type	●		●		—		
	Sealed type	—		—		●		
Dimensions	Height (mm) Including standoff	18.8 (Low profile type: 15.8)		25		11.3		
	Area of base (mm)							
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid								
Safety standards		UL/C-UL, VDE, CQC		UL/C-UL, TÜV, SEMKO, CQC		UL, CSA, VDE		
Unit weight (Approx.)		8 g (Low profile type: 7.5 g)		12 g		10 g		
Option		—		—		Socket		
Remarks		* TV-8 rated and Low profile type: 16 A only		—		—		

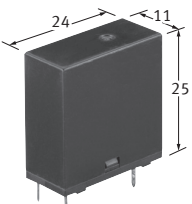
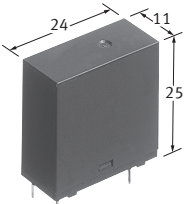
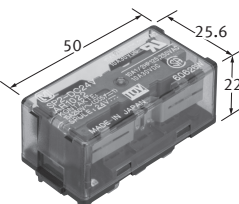
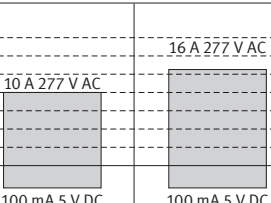
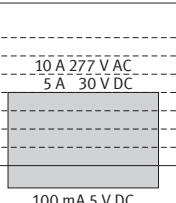
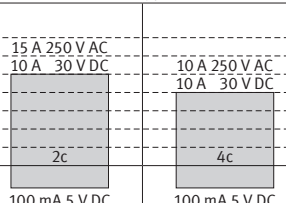
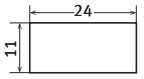
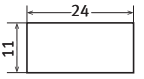
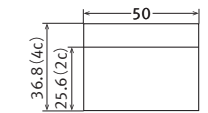
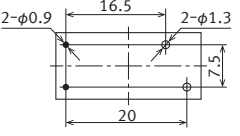
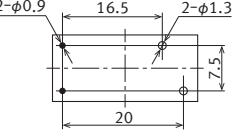
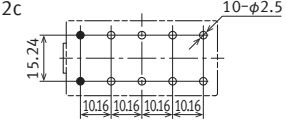
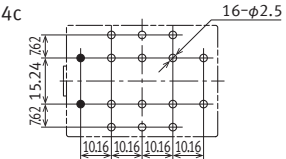
Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)					
Product name		DE RELAY		DK RELAY		DY RELAY	
Type of relay (Height includes standoff unit = mm)							
Initial of part number		ADE		AW3		ADY	
Features		· Meet European standards · 1a/2a/1a1b 10A/8A polarized power relays		· 1a 10A, 1a1b/2a 8A small polarized power relays		· 1a 10A, 1a1b 8A small polarized power relays	
Contact data	Contact arrangement	1a 1a1b, 2a		1a 1a1b, 2a		1a 1a1b	
	Contact shape	Single		Single		Single	
	Contact material	AgSnO ₂ type		AgSnO ₂ type + Au flashed		AgNi ₂ type + Au flashed	
	Contact rating (resistive)						
	Min. switching load (reference value)	100 mA 5 V DC		10 mA 5 V DC		10 mA 5 V DC	
	Max. switching voltage	250 V AC, 30 V DC		250 V AC, 125 V DC (0.2 A)		250 V AC, 125 V DC (0.2 A)	
Latching types availability		●		●		●	
Coil data	Rated coil voltage	5, 12, 24 V DC		3, 5, 6, 9, 12, 24 V DC		3, 5, 6, 9, 12, 24 V DC	
	Rated operating power	200 mW		200 mW		200 mW	
	Operate [Set] voltage (initial)	Max. 70% V		Max. 70% V		Max. 70% V	
	Release [Reset] voltage (initial)	Min. 10% V [Max. 70% V]		Min. 10% V [Max. 70% V]		Min. 10% V [Max. 70% V]	
Time Characteristics (initial)	Operate [Set] time (initial)	Max. 10 ms		Max. 10 ms		Max. 10 ms	
	Release [Reset] time (initial)	Max. 5 ms [Max. 10 ms]		Max. 8 ms [Max. 10 ms]		Max. 8 ms [Max. 10 ms]	
Expected life	Mechanical	Min. 10 ⁷		Min. 5 x 10 ⁷		Min. 5 x 10 ⁷	
	Electrical	Min. 10 ⁵ Min. 5 x 10 ⁴ (2a: 8 A 30 V DC)		Min. 10 ⁵		Min. 10 ⁵	
Dielectric strength (initial)	Between open contacts	1,000 Vrms		1,000 Vrms		1,000 Vrms	
	Between contact sets	— 4,000 Vrms		— 4,000 Vrms		— 4,000 Vrms	
	Between contact and coil	5,000 Vrms		4,000 Vrms		4,000 Vrms	
Surge withstand voltage (between contact and coil) (initial)		12,000 V		10,000 V		10,000 V	
Ambient temperature		-40 to +70°C		-40 to +65°C		-40 to +70°C	
Protective construction	Dust cover type	—		—		—	
	Flux-resistant type	—		—		—	
	Sealed type	●		●		●	
Dimensions	Height (mm) Including standoff	12.5		10		10	
	Area of base (mm)						
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid							
Safety standards		UL/C-UL, VDE		UL, CSA, TÜV, VDE		UL, CSA, TÜV	
Unit weight (Approx.)		7 g		5 g 6 g		6 g	
Option		—		Socket		Socket	
Remarks		—		—		—	

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)						
Product name		LQ RELAY		JS RELAY		JW RELAY		
Type of relay (Height includes standoff unit = mm)								
Initial of part number		ALQ		AJS		AJW		
Features		· 1a/1c 10A small power relays		· TV-5 rated [1a, 1c (Form A)] · 1a/1c 10A cubic type power relays		· TV-5 rated (1a) · 1a/1c/2a/2c 5A/10A universal power relays		
Contact data	Contact arrangement	1a, 1c		1a, 1c	1a Long life	1a, 1c, 2a, 2c	1a, 1c	
	Contact shape	Single		Single		Single		
	Contact material	AgNi type		AgSnO ₂ type		1a: AgSnO ₂ type 1c, 2a, 2c: AgNi type		
	Contact rating (resistive)			10 A 125 V AC	6 A 277 V AC	10 A 277 V AC	10 A 250 V AC 10 A 30 V DC	
	Min. switching load (reference value)	100 mA 5 V DC		100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC
	Max. switching voltage	250 V AC		277 V AC, 100 V DC (0.5A)		250 V AC, 30 V DC		
Latching types availability		—		—		—		
Coil data	Rated coil voltage	5, 6, 9, 12, 18, 24 V DC		5, 6, 9, 12, 18, 24, 48 V DC		5, 6, 9, 12, 24, 48 V DC		
	Rated operating power	200 mW (1a), 400 mW (1c)		360 mW		530 mW		
	Operate [Set] voltage (initial)	Max. 75% V		Max. 70% V		Max. 70% V		
	Release [Reset] voltage (initial)	Min. 5% V		Min. 10% V		Min. 10% V		
Time Characteristics (initial)	Operate [Set] time (initial)	Max. 20 ms		Max. 10 ms		Max. 15 ms		
	Release [Reset] time (initial)	Max. 20 ms (With diode)		Max. 10 ms		Max. 5 ms		
Expected life	Mechanical	Min. 10 ⁷		Min. 10 ⁷		Min. 5 x 10 ⁶		
	Electrical	Min. 5 x 10 ⁴ (Form A: 10 A 125 V AC, 5 A 250 V AC) Min. 10 ⁵ (Form A: 5 A 30 V DC)		Min. 10 ⁵ (1a, 1c)	Min. 2 x 10 ⁵ (1a Long life)	Min. 10 ⁵		
Dielectric strength (initial)	Between open contacts	1,000 Vrms (1a), 750 Vrms (1c)		750 Vrms		1,000 Vrms		
	Between contact sets	—		—		3,000 Vrms (2a, 2c)	—	
	Between contact and coil	4,000 Vrms		1,500 Vrms		5,000 Vrms		
Surge withstand voltage (between contact and coil) (initial)		8,000 V		—		10,000 V		
Ambient temperature		-40 to +85°C		-40 to +70°C (Class E) -40 to +85°C (Class B) -40 to +105°C (Class F)		-40 to +60°C (Class E) -40 to +85°C (Class B)		
Protective construction	Dust cover type	—		—	—	—		
	Flux-resistant type	—		●	●	●		
	Sealed type	●		●	—	●		
Dimensions	Height (mm) Including standoff	16		16.4		20		
	Area of base (mm)							
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid								
Safety standards		UL/C-UL, VDE, CQC		UL, CSA, TÜV, VDE*		UL, CSA, VDE, CQC		
Unit weight (Approx.)		7 g		12 g		13 g		
Option		—		—		Socket		
Remarks		—		* For CQC, please contact our sales representative		—		

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)					
Product name		LK-G RELAY		LK-P RELAY		SP RELAY	
Type of relay (Height includes standoff unit = mm)							
Initial of part number		ALKG		ALKP		AR1	
Features		<ul style="list-style-type: none"> ·TV-5 rated ·1 mm contact gap. 1 Form A 10A/16A power relays 		<ul style="list-style-type: none"> ·TV-5 rated ·1 Form A 10A power relays 		<ul style="list-style-type: none"> ·2c 15A, 4c 10A polarized power relays 	
Contact data	Contact arrangement	1a		1a		2c 4c	
	Contact shape	Single		Single		Twin	
	Contact material	AgSnO ₂ type		AgSnO ₂ type		Stationary: AgSnO ₂ type+Au flashed Movable: AgSnO ₂ type	
	Contact rating (resistive)						
	Min. switching load (reference value)	100 mA 5 V DC		100 mA 5 V DC		100 mA 5 V DC	
	Max. switching voltage	277 V AC		277 V AC, 30 V DC		250 V AC, 30 V DC*	
Latching types availability		—		—		●	
Coil data	Rated coil voltage	5, 9, 12, 24 V DC		5, 9, 12, 24 V DC		3, 5, 6, 12, 24, 48 V DC	
	Rated operating power	530 mW		530 mW		300 mW	
	Operate [Set] voltage (initial)	Max.75% V		Max.70% V		Max.70% V	
	Release [Reset] voltage (initial)	Min.10% V		Min.10% V		Min.10% V [Max.70% V]	
Time Characteristics (initial)	Operate [Set] time (initial)	Max.15 ms		Max.15 ms		Max.30 ms	
	Release [Reset] time (initial)	Max.20 ms (with diode)		Max.5 ms		Max.20 ms [Max.30 ms]	
Expected life	Mechanical	Min.2 x10 ⁶		Min.2 x10 ⁶		Min.5 x10 ⁷	
	Electrical	Min.10 ⁵ Min.5 x10 ⁴		Min.10 ⁵		Min.10 ⁵	
		Dielectric strength (initial)	1,000 Vrms		1,000 Vrms		1,500 Vrms
Surge withstand voltage (between contact and coil) (initial)	Between open contacts	—		—		3,000 Vrms	
	Between contact sets	4,000 Vrms		4,000 Vrms		3,000 Vrms	
	Between contact and coil	10,000 V		10,000 V		—	
Ambient temperature		-40 to +70°C		-40 to +70°C		-50 to +60°C	
Protective construction	Dust cover type	—		—		●	
	Flux-resistant type	●		●		—	
	Sealed type	—		—		—	
Dimensions	Height (mm) Including standoff	25		25		22	
	Area of base (mm)						
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid						 	
Safety standards		UL/C-UL, TÜV, CQC		UL, CSA, TÜV, SEMKO, VDE, CQC		UL, CSA, TÜV	
Unit weight (Approx.)		12 g		12 g		50 g 65 g	
Option		—		—		Terminal socket, Mounting board	
Remarks		—		—		*48 V DC (Max.2 A)	

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)		
Product name		DJ RELAY	JV-N RELAY	LE RELAY
Type of relay (Height includes standoff unit = mm)				
Initial of part number		ADJ	AJVN	ALE
Features		<ul style="list-style-type: none"> 1-pole/2-pole 16A polarized power relays Clearance and creepage distance is Min.8mm (Contact and coil) 	<ul style="list-style-type: none"> 1 Form A 16A, low profile: 10.9mm power relays for heater control 	<ul style="list-style-type: none"> TV-5 rated 1 Form A 16A power relay for micro wave oven
Contact data	Contact arrangement	1c, 1a, 1b	1a1b, 2c, 2a, 2b	1a
	Contact shape	Single		
	Contact material	AgSnO ₂ type	AgSnO ₂ type + Au flashed	AgSnO ₂ type
	Contact rating (resistive)			
	Min. switching load (reference value)	100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC
	Max. switching voltage	250 V AC		277 V AC, 110 V DC (0.3 A)
Latching types availability		●	—	—
Coil data	Rated coil voltage	5, 6, 12, 24, 48 V DC	4.5, 6, 9, 12, 18, 24, 48, 100 V DC	5, 6, 9, 12, 18, 24, 48 V DC
	Rated operating power	150 mW (1 coil latching) 250 mW (Single Stable, 2 coil latching)	200 mW (4.5 to 48 V DC) 600 mW (100 V DC)	400 mW (Standard type) 200 mW (High sensitive type)
	Operate [Set] voltage (initial)	Max.75% V [Max.70% V]	Max.75% V (4.5 to 48 V DC) Max.60 V DC (100 V DC)	Max.75% V
	Release [Reset] voltage (initial)	Min.10% V [Max.70% V]	Min.5% V (4.5 to 48 V DC) Min.4 V DC (100 V DC)	Min.5% V
Time Characteristics (initial)	Operate [Set] time (initial)	Max.20 ms	Max.12 ms (4.5 to 48 V DC) Min.8 ms (100 V DC)	Max.20 ms
	Release [Reset] time (initial)	Max.20 ms	Max.5 ms	Max.20 ms (Standard type) Max.25 ms (High sensitivity type)*
Expected life	Mechanical	Min.5 x10 ⁶	Min. 2 x10 ⁷	Min.2 x10 ⁶
	Electrical	Min.10 ⁵	Min.10 ⁵ (10 A 125 V AC, 10 A 30 V DC)	Min.10 ⁵
Dielectric strength (initial)	Between open contacts	1,000 Vrms	1,000 Vrms	1,000 Vrms
	Between contact sets	—	2,000 Vrms	—
	Between contact and coil	4,000 Vrms	2,500 Vrms	4,000 Vrms
Surge withstand voltage (between contact and coil) (initial)		10,000 V	4,500 V	10,000 V
Ambient temperature		-40 to +70°C	-40 to +70°C, -40 to +60°C (100 V DC)	-40 to +85°C
Protective construction	Dust cover type	—	—	—
	Flux-resistant type	●	●	●
	Sealed type	●*	—	—
Dimensions	Height (mm) Including standoff	16.5	10.9	24.9
	Area of base (mm)			
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid				<p>(PC board terminal is also available)</p>
Safety standards		UL/C-UL, VDE, CQC	UL, CSA, TÜV	UL, CSA, TÜV, VDE, CQC
Unit weight (Approx.)		14 g	8 g	17 g (15 g PCB type)
Option		—	—	—
Remarks		Test button type is available * Please contact our sales representative for details	—	* With diode

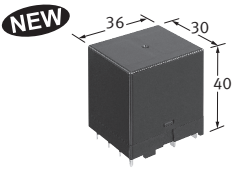
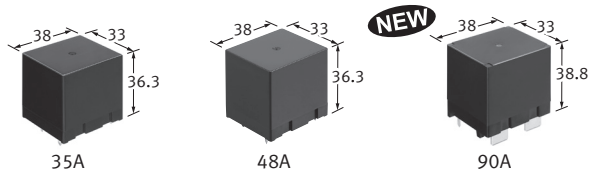
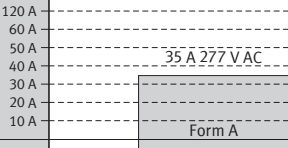
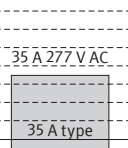
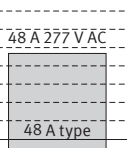
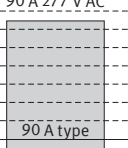
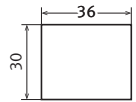
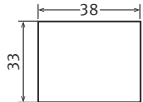
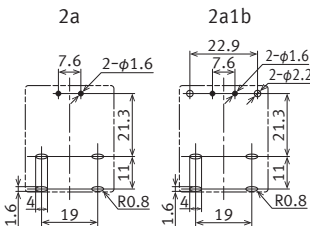
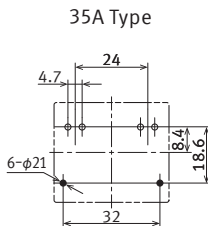
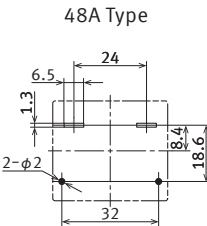
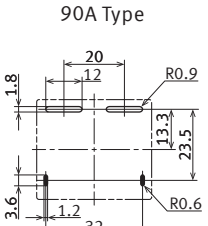
Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)		
Product name		LZ RELAY	LZ-N RELAY	LF RELAY
Type of relay (Height includes standoff unit = mm)				
Initial of part number		ALZ	ALZN	ALF
Features		<ul style="list-style-type: none"> TV-5 rated Low profile: 15.7mm height 1a/1c 16A power relay 	<ul style="list-style-type: none"> TV-5 rated and meet EN60335-1 GWT Low profile: 15.7mm height 1a/1c 16A power relay 	<ul style="list-style-type: none"> TV-8 rated 1 Form A 20A power relays for compress or and invertor load
Contact data	Contact arrangement	1a, 1c	1a, 1c	1a
	Contact shape	Single	Single	Single
	Contact material	AgSnO ₂ type	AgSnO ₂ type	AgSnO ₂ type
	Contact rating (resistive)			
	Min. switching load (reference value)	100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC
	Max. switching voltage	440 V AC	440 V AC	250 V AC
Latching types availability		—	—	—
Coil data	Rated coil voltage	5, 9, 12, 18, 24 V DC	5, 9, 12, 18, 24 V DC	5, 6, 9, 12, 18, 24 V DC
	Rated operating power	400 mW	400 mW	900 mW
	Operate [Set] voltage (initial)	Max.70% V	Max.70% V	Max.70% V
	Release [Reset] voltage (initial)	Min.10% V	Min.10% V	Min.10% V
Time Characteristics (initial)	Operate [Set] time (initial)	Max.15 ms	Max.15 ms	Max.20 ms
	Release [Reset] time (initial)	Max.5 ms	Max.5 ms	Max.15 ms (With diode)
Expected life	Mechanical	Min.10 ⁷	Min.10 ⁶	Min.2 x10 ⁶
	Electrical	Min.10 ⁵ (Form A) Min.5 x10 ⁴ (Form B)	Min.10 ⁵ (Form A) , Min.5 x10 ⁴ (Form C, NO) Min.10 ⁴ (Form B)	Min.10 ⁵
Dielectric strength (initial)	Between open contacts	1,000 Vrms	1,000 Vrms	1,000 Vrms
	Between contact sets	—	—	—
	Between contact and coil	5,000 Vrms	5,000 Vrms	5,000 Vrms
Surge withstand voltage (between contact and coil) (initial)		10,000 V	10,000 V	10,000 V
Ambient temperature		-40 to +85°C (Class B) -40 to +105°C (Class F)	-40 to +85°C (Class B) -40 to +105°C (Class F)	-40 to +60°C
Protective construction	Dust cover type	—	—	—
	Flux-resistant type	●	●	●
	Sealed type	●*	—	—
Dimensions	Height (mm) Including standoff	15.7	15.7	23.3
	Area of base (mm)			
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid				<p>(TMP type is also available)</p>
Safety standards		UL/C-UL, VDE	UL/C-UL, VDE	UL/C-UL, TÜV, VDE
Unit weight (Approx.)		12 g	11 g	23 g
Option		—	—	—
Remarks		* Please contact our sales representative for details	Not meeting Electrical Appliance and Material Safety Act	—

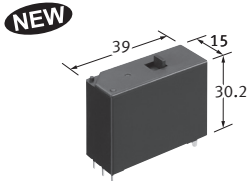
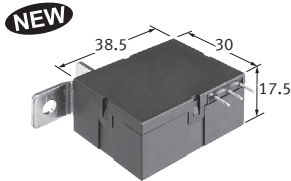
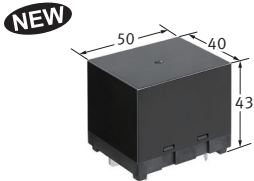
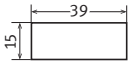
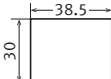
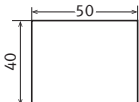
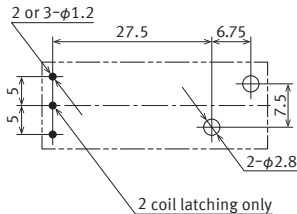
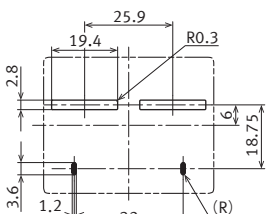
Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)			
Product name		JT-V RELAY		LF-G RELAY	HE RELAY
Type of relay (Height includes standoff unit = mm)					
Initial of part number		PC board terminal type TMP type AJTV		ALFG	AHE
Features		· Surge withstand voltage: 6KV 1a/1c 30A power relay		· 1 Form A 22A/33A Compact power relays for solar inverter load	· TV-10/TV-15 rated · 1a 30A, 2a 25A power relays
Contact data	Contact arrangement	1a, 1c		1a	1a 2a
	Contact shape	Single		Single	Single
	Contact material	AgSnO ₂ type		AgSnO ₂ type	AgSnO ₂ type
	Contact rating (resistive)				
	Min. switching load (reference value)	100 mA 5 V DC		100 mA 5 V DC 100 mA 5 V DC 100 mA 5 V DC	100 mA 5 V DC 100 mA 5 V DC
	Max. switching voltage	277 V AC		250 V AC	277 V AC, 30 V DC
Latching types availability		-		-	-
Coil data	Rated coil voltage	12, 18, 24, 48 V DC		9, 12, 18, 24 V DC	12, 24, 48, 100/120, 200/240 V AC 6, 12, 24, 48, 100, 110 V DC
	Rated operating power	1 W		1.4 W	1.7 to 2.7 VA (AC) , 1.92 W (DC)
	Operate [Set] voltage (initial)	Max.75% V		Max.70% V	Max.70% V
	Release [Reset] voltage (initial)	Min.10% V		Min.10% V	Min.15% V (AC) , Min.10% V (DC)
Time Characteristics (initial)	Operate [Set] time (initial)	Max.15 ms		Max.20 ms	Max.30 ms
	Release [Reset] time (initial)	Max.10 ms		Max.10 ms	Max.30 ms (AC) , Max.10 ms (DC)
Expected life	Mechanical	Min.10 ⁷		Min.10 ⁵ (Contact gap: 1.5 mm) Min.5 x10 ⁵ (Contact gap: 1.8 mm)	Min.5 x10 ⁶ (AC) Min.10 ⁷ (DC)
	Electrical	Min.10 ⁵ (Form A) Min.10 ⁵ (Form B: 10 A 277 V AC)		Min.3 x10 ⁶ (Standard type)	Min.2 x10 ⁵ (1a: 30 A 250 V AC, 2a: 20 A 250 V AC)
Dielectric strength (initial)	Between open contacts	1,200 Vrms		2,500 Vrms	2,000 Vrms
	Between contact sets	-		-	- 4,000 Vrms
	Between contact and coil	3,500 Vrms		4,000 Vrms	5,000 Vrms
Surge withstand voltage (between contact and coil) (initial)		6,000 V		6,000 V	10,000 V
Ambient temperature		-55 to +85°C		-40 to +60°C , -40 to +85°C *	-50 to +55°C
Protective construction	Dust cover type	●		-	●
	Flux-resistant type	-		●	● (PC board terminal)
	Sealed type	●		-	-
Dimensions	Height (mm) Including standoff	20.2 (PC board terminal) 27.9 (TMP type)		23.3	35.8 (Plug-in terminal type, TM type) 36.3 (PC board terminal) 52.8 (Screw terminal type)
	Area of base (mm)				
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid					
Safety standards		UL/C-UL		UL/C-UL, VDE	UL, CSA, VDE, TÜV, CQC
Unit weight (Approx.)		25 g (30 g TMP type)		23 g	80 to 120 g
Option		-		-	Terminal socket
Remarks		Not meeting Electrical Appliance and Material Safety Act		Not meeting Electrical Appliance and Material Safety Act * Coil holding voltage is 45 to 85%V	-

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)				
Product name		HE-S RELAY		HE RELAY PV TYPE		
Type of relay (Height includes standoff unit = mm)						
Initial of part number		AHES		AHE		
Features		<ul style="list-style-type: none"> TV-8 rated 2a/2a1b 35A compact power relays for energy management 		<ul style="list-style-type: none"> 1 Form A 35A/48A/90A compact power relays for solar inverter 		
Contact data	Contact arrangement	2a, 2a1b		1a		
	Contact shape	Single		Single		
	Contact material	AgSnO ₂ type (Form A) AgNi type+Au flashed (Form B)		AgSnO ₂ type (35 A)	AgNi type (48 A/90 A)	
	Contact rating (resistive)					
	Min. switching load (reference value)	100 mA 5 V DC		100 mA 5 V DC	100 mA 5 V DC	100 mA 5 V DC
	Max. switching voltage	480 V AC, 110 V DC		277 V AC, 30 V DC		480 V AC
Latching types availability		-		-		
Coil data	Rated coil voltage	6, 9, 12, 24, 48 V DC		6, 9, 12, 24 V DC		
	Rated operating power	1.88 W		1.92 W		
	Operate [Set] voltage (initial)	Max. 75% V		Max. 70% V		
	Release [Reset] voltage (initial)	Min. 5% V		Min. 10% V		
Time Characteristics (initial)	Operate [Set] time (initial)	Max. 30 ms		Max. 30 ms		
	Release [Reset] time (initial)	Max. 10 ms		Max. 10 ms		
Expected life	Mechanical	Min. 5x 10 ⁶		Min. 10 ⁷ (35 A/48 A)	Min. 10 ⁶ (90 A)	
	Electrical	Min. 3 x 10 ⁴ (Standard type: 35 A 277 V AC) Min. 5 x 10 ⁴ (Long life type: 35 A 277 V AC)		Min. 3 x 10 ⁴ (35 A: 35 A 277 V AC, 48 A: 48 A 277 V AC) Min. 10 ⁴ (90 A: 80 A 277 V AC)		
Dielectric strength (initial)	Between open contacts	2,000 Vrms (Between open Form A contacts)		2,000 Vrms		
	Between contact sets	5,000 Vrms (Between Form A contact sets)		-		
	Between contact and coil	5,000 Vrms (Between Form A contact and coil)		5,000 Vrms		
Surge withstand voltage (between contact and coil) (initial)		10,000 V (Between Form A contact and coil)		10,000 V		
Ambient temperature		-40 to +55°C, -40 to +85°C *		-50 to +55°C, -50 to +85°C *		
Protective construction	Dust cover type	-		-		
	Flux-resistant type	●		●		
	Sealed type	-		-		
Dimensions	Height (mm) including standoff	40		36.3 (35 A/48 A)		38.8 (90 A)
	Area of base (mm)					
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid						
Safety standards		UL/C-UL, VDE		UL, CSA, VDE	UL/C-UL, VDE	
Unit weight (Approx.)		64 g		80 g		85 g
Option		-		-		
Remarks		* Coil holding voltage is 30 to 60%V		90 A type does not meet the Electrical Appliance and Material Safety Law * Coil holding voltage is 50 to 60%V		

Power Relays (Over 2A) Selector Chart

Category		Power Relays (Over 2A)		
Product name		DJ-H RELAY	DZ-S RELAY	HE-N RELAY
Type of relay (Height includes standoff unit = mm)				
Initial of part number		ADJH	ADZS	AHE6
Features		· 1 form A 50A latching relay for lighting and motor load	· Meet IEC62055-31 UC3 1 form A 90A power latching relay	· High capacity 120A 480V AC 1 Form A power relay
Contact data	Contact arrangement	1a	1a	1a
	Contact shape	Single	Single	Single
	Contact material	AgSnO ₂ type	AgSnO ₂ type	AgNi type
	Contact rating (resistive)	50 A 277 V AC	90 A 250 V AC	120 A 480 V AC
	Min. switching load (reference value)	100 mA 5 V DC	100 mA 125 V AC	100 mA 5 V DC
	Max. switching voltage	480 V AC	276 V AC	800 V AC
Latching types availability		● (Latching only)	● (Latching only)	—
Coil data	Rated coil voltage	5, 12, 24 V DC	5, 12, 24 V DC	6, 9, 12, 24 V DC
	Rated operating power	1 W (1 coil latching) 2 W (2 coil latching)	1.5 W (1 coil latching) 3 W (2 coil latching)	2.5 W
	Operate [Set] voltage (initial)	Max. 75% V	Max. 70% V	Max. 75% V
	Release [Reset] voltage (initial)	Max. 75% V	Max. 70% V	Min. 5% V
Time Characteristics (initial)	Operate [Set] time (initial)	Max. 20 ms	Max. 20 ms	Max. 30 ms
	Release [Reset] time (initial)	Max. 20 ms	Max. 20 ms	Max. 10 ms
Expected life	Mechanical	Min. 10 ⁶	Min. 10 ⁵	Min. 10 ⁶
	Electrical	Min. 10 ⁴ (50 A 277 V AC) Min. 10 ⁵ (25 A 277 V AC)	Min. 10 ⁴ (90 A 250 V AC)	Min. 10 ³ (120 A 480 V AC) Min. 10 ⁴ (55 A 800 V AC)
Dielectric strength (initial)	Between open contacts	1,500 Vrms	2,000 Vrms	2,000 Vrms
	Between contact sets	—	—	—
	Between contact and coil	4,000 Vrms	4,000 Vrms	5,000 Vrms
Surge withstand voltage (between contact and coil) (initial)		12,000 V	12,000 V	10,000 V
Ambient temperature		-40 to +85°C	-40 to +85°C	-40 to +55°C *1 -40 to +85°C *2
Protective construction	Dust cover type	—	●	—
	Flux-resistant type	●	—	●
	Sealed type	—	—	—
Dimensions	Height (mm) Including standoff	30.2	17.5	43
	Area of base (mm)			
PC board pattern (BOTTOM VIEW) ● indicates input terminal 2.54mm grid			—	
Safety standards		UL/C-UL, VDE	—	UL/C-UL, VDE
Unit weight (Approx.)		31 g	45 g	115 g
Option		—	—	—
Remarks		Reverse polarity type is available	IEC62055-31 UC3	*1: Coil holding voltage is 40 to 100%V (at 20°C) *2: Coil holding voltage is 50 to 60%V (at 85°C)