

ET

RoHS Compliant



Introduction

The **ET** series is Copal's standard size high capacity toggle switch. The **ET** series are available in various current rating, switching functions, and terminals. The housing is made of self-extinguishing phenol resin which has excellent heat resistance, arc resistance, and tracking resistance. The contacts are designed to eliminate chattering and bouncing to prevent insulation deterioration.

Part Numbering

E **T** **2** **25** **K** **12** **-** **Z**

Series code Actuator shape No. of poles Current Switching function Terminal styles

Fig.	No. of poles
1	1 pole
2	2 poles
3	3 poles
4	4 poles
6	6 poles

Fig.	AC125V	AC250V	Fig.	AC125V	AC250V
03	3A	—	15	15A	10A
05	5A	3A	20	20A	12A
06	6A	(2A)	25	25A	15A
10	10A	(7A)	30	30A	(25A)

1 pole 3 poles	2 poles 4 poles 6 poles	Key way	Key way	Key way
A	K	ON	—	OFF
B	L	ON	—	(OFF)
C	M	OFF	—	(ON)
D	N	ON	—	ON
E	P	ON	OFF	ON
F	R	ON	—	(ON)
G	S	(ON)	OFF	(ON)
H	T	ON	OFF	(ON)

Fig.	Terminal style
None	TAB # 250
10	Screw Terminal
12	Solder Terminal
13	Plate Connect Solder Terminal
32	Solder Terminal

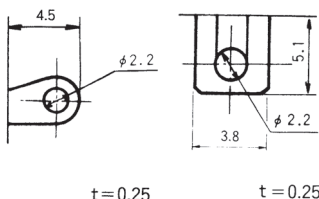
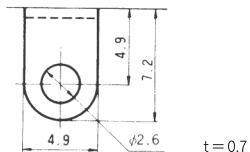
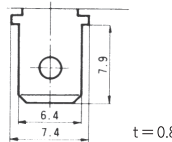
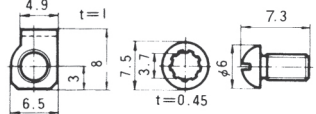
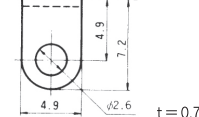
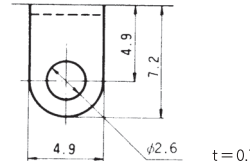
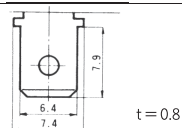
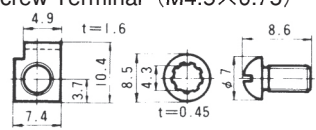
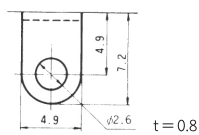
Terminal Style and Dimensions

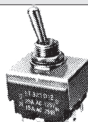
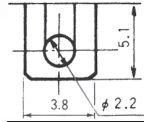
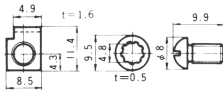
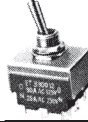
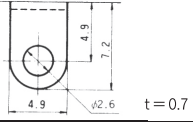
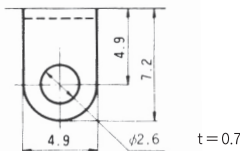
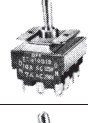
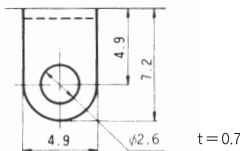
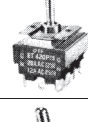
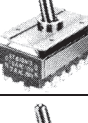
TAB # 250 (Style : -)	Screw Terminal (Style : 10)			Solder Terminal		
				Solder Terminal (Style : 12 · 13)	Style : 12	Style : 32
	M3.5 × 0.6	M4 × 0.7	M4.5 × 0.75		ET103 □ 12 ET206 □ 12 Type	ET103 □ 32 Type
t=0.8	ET115·215 Type	ET120·220 Type	ET125·225·230 Type	t=0.7	t=0.25	t=0.25

(ON) and (OFF) : Momentary.

Please refer to P.564 for Common Specifications

ET Series Selection Table

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style	Page			
ET103		1	AC125V 3A	ON — OFF	Solder Terminal 	416			
	ON — ON			Double pole type					
ET105		1	AC125V 5A AC250V 3A	ON — OFF	Solder Terminal 	416			
ET205		2		ON — ON ON — OFF — ON		418			
ET110		1	AC125V 10A AC250V 7A	ON — OFF ON — ON ON — OFF — ON (ON) — OFF — (ON) ON — OFF — (ON)	TAB#250 	417			
ET210		2		AC125V 10A	ON — ON — OFF	Screw Terminal (M3.5×0.6) 	419		
ET115		1	AC125V 15A AC250V 10A	ON — OFF ON — (OFF) OFF — (ON) ON — OFF — ON ON — (ON) (ON) — OFF — (ON) ON — OFF — (ON)	Solder Terminal 	417			
ET215		2			419				
ET315		3			Solder Terminal 	421			
ET415		4				423			
ET415 /Plate type									
ET120		1	AC125V 20A AC250V 12A	ON — OFF ON — ON ON — OFF — ON (ON) — OFF — (ON) ON — OFF — (ON)	TAB#250 	417			
ET125		1	AC125V 25A AC250V 15A	ON — OFF ON — ON ON — OFF — ON	Screw Terminal (M4.5×0.75) 	418			
ET225		2			Solder Terminal 	420			

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style	Page
ET325		3	AC125V 25A AC250V 15A	ON — OFF	Solder Terminal 	421
ET425		4		ON — ON ON — OFF — ON		424
ET206		2	AC125V 6A	ON — OFF	Solder Terminal 	418
			AC125V 6A AC250V 2A	ON — ON		
ET220		2	AC125V 20A AC250V 12A	ON — OFF ON — (OFF) OFF — (ON) ON — ON ON — OFF — ON ON — (ON) (ON) — OFF — (ON) ON — OFF — (ON)	TAB#250 Screw Terminal (M4×0.7) Solder Terminal	420
ET230		2	AC125V 30A AC250V 25A	ON — OFF ON — ON ON — OFF — ON	Screw Terminal (M4.5×0.75) 	420
ET330		3		Solder Terminal 	422	
ET310		3	AC125V 10A AC250V 7A	ON — OFF ON — ON ON — OFF — ON	TAB#250 Solder Terminal	421
ET410		4		ON — (ON) (ON) — OFF — (ON) ON — OFF — (ON)	Solder Terminal 	422
ET410 /Plate type						
ET420		4	AC125V 20A AC250V 12A	ON — OFF ON — ON ON — OFF — ON		423
ET420 /Plate type				424		
ET610N /Plate type		6	AC125V 10A AC250V 7A	ON — ON		424
ET620N /Plate type		6	AC125V 20A AC250V 12A	ON — ON		425

● Ratings are based on resistance load.

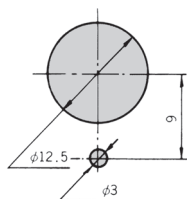
● Refer to P.425 for **UL**-recognized and **CSA, PSE**-certified products.

(ON) and (OFF) : Momentary.

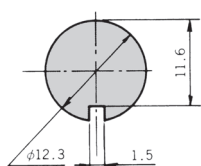
Panel Cut-Out Dimensions

● Refer to P.426 for a list of accessories.

Panel thickness : 5.5mm max.



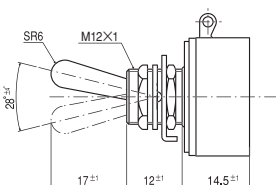
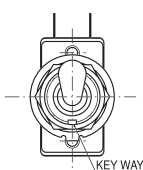
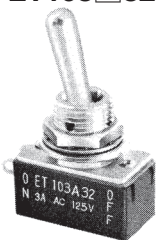
With Locking Ring



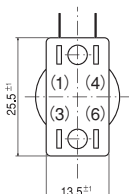
Without Locking Ring

Note : Panel thickness should be 5.5 mm max. unless otherwise specified.

ET103□32 (1 pole)



Terminal numbers are shown on the bottom of the switch.



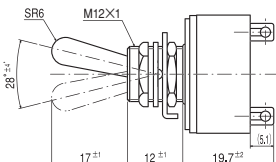
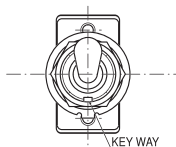
Switching function	Key way	Key way	Key way
Part No.			
★ ET103A32-Z	ON	—	OFF
Connecting terminals	1—4	—	—
★ ET103V32-Z	ON	—	ON
Connecting terminals	1—4	—	3—6

Terminal pins No.3 and No.6 are not available in switches with Switching Function "A".

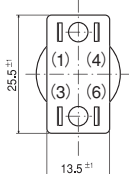
Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET103A32	AC125V 3A	30mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	10,000 cycles
ET103V32 Double pole type					

ET103□12 (1 pole)



Terminal numbers are shown on the bottom of the switch.



Switching function	Key way	Key way	Key way
Part No.			
ET103A12-Z	ON	—	OFF
Connecting terminals	1—4	—	—
★ ET103V12-Z	ON	—	ON
Connecting terminals	1—4	—	3—6

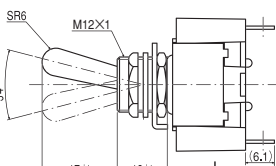
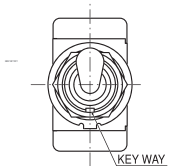
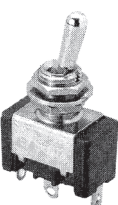
Terminal pins No.3 and No.6 are not available in switches with Switching Function "A".

Specifications

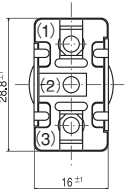
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET103A12	AC125V 3A	30mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	10,000cycles
ET103V12					

ET105□12 (1 pole)

Terminal pin No.2 is not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.



L dimensions

Part No.	Terminal style	Solder Terminal
ET105A12-Z		24.6 ^{±1}
ET105D12-Z		24.6 ^{±1}
ET105E12-Z		24.6 ^{±1}

Specifications

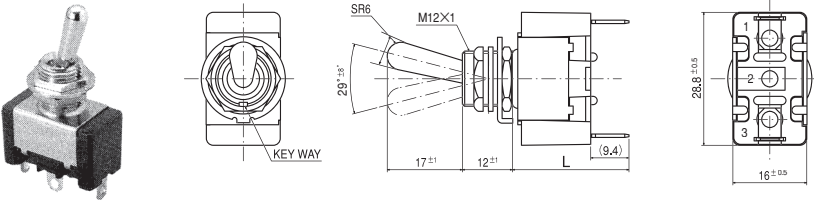
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET105A12	AC125V 5A AC250V 3A	20mΩ Max. (DC2V 100mA)	AC1500V 1分間/minute	100MΩ Min. (DC500V)	20,000 cycles
ET105D12					
ET105E12					

Switching function	Key way	Key way	Key way
Part No.			
☆ ET105A12-Z	ON	—	OFF
Connecting terminals	1—3	—	—
☆ ET105D12-Z	ON	—	ON
☆ ET105E12-Z	ON	OFF	ON
Connecting terminals	2—3	—	2—1

☆ : Semi-standard products. ★ : Made to order products.

ET110 (1 pole)

Terminal pin No.2 is not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET110A ■ AC125V 10A ET110D ■ AC250V 7A ET110E ■	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET110F ■ AC125V 10A ET110G ■ AC250V 7A ET110H ■				20,000 cycles

L dimensions

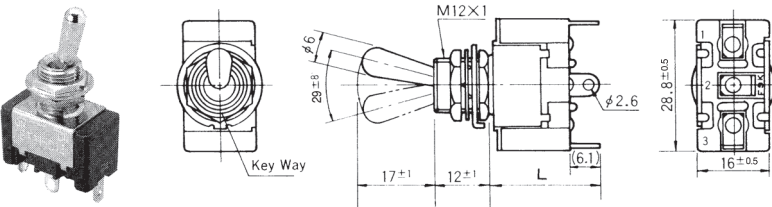
Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET110A ■·D ■-Z	—	—	24.6 ^{±1}
ET110E ■-Z	—	—	24.6 ^{±1}
ET110F ■-Z	27.6 ^{±1}	—	24.6 ^{±1}
ET110G ■·H ■-Z	27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}

Switching function	Key way	Key way	Key way
Part No.			
ET110A ■-Z	ON	—	OFF
Connecting terminals	1—3	—	—
ET110D ■-Z	ON	—	ON
ET110E ■-Z	ON	OFF	ON
ET110F ■-Z	ON	—	(ON)
ET110G ■-Z	(ON)	OFF	(ON)
ET110H ■-Z	ON	OFF	(ON)
Connecting terminals	2—3	—	2—1

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

ET115 (1 pole)

Terminal pin No.2 is not available in switches with Switching Function "A", "B", or "C".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET115A ■ AC125V 15A ET115D ■ AC250V 10A ET115E ■	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET115B ■ AC125V ET115C ■ 15A ET115F ■ AC250V ET115G ■ 10A ET115H ■				20,000 cycles

L dimensions

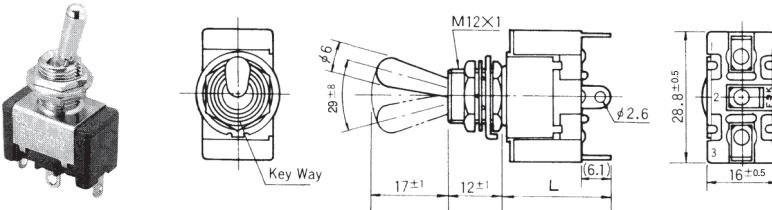
Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET115A ■·D ■-Z	27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}
ET115E ■-Z	27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}
ET115B ■-Z	—	—	24.6 ^{±1}
ET115C ■·F~H ■-Z	—	25.4 ^{±1}	24.6 ^{±1}

Switching function	Key way	Key way	Key way
Part No.			
ET115A ■-Z	ON	—	OFF
ET115B ■-Z	ON	—	(OFF)
Connecting terminals	1—3	—	—
ET115C ■-Z	OFF	—	(ON)
Connecting terminals	—	—	1—3
ET115D ■-Z	ON	—	ON
ET115E ■-Z	ON	OFF	ON
ET115F ■-Z	ON	—	(ON)
ET115G ■-Z	(ON)	OFF	(ON)
ET115H ■-Z	ON	OFF	(ON)
Connecting terminals	2—3	—	2—1

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

ET120 (1 pole)

Terminal pin No.2 is not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET120A ■ AC125V 20A ET120D ■ AC250V 12A ET120F ■	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET120G ■ AC125V 20A ET120H ■ AC250V 12A				

L dimensions

Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET120A ■·D ■-Z	—	—	24.6 ^{±1}
ET120F ■~H ■-Z	27.6 ^{±1}	27.8 ^{±1}	24.6 ^{±1}

Switching function	Key way	Key way	Key way
Part No.			
ET120A ■-Z	ON	—	OFF
Connecting terminals	1—3	—	—
ET120D ■-Z	ON	—	ON
ET120F ■-Z	ON	—	(ON)
ET120G ■-Z	(ON)	OFF	(ON)
ET120H ■-Z	ON	OFF	(ON)
Connecting terminals	2—3	—	2—1

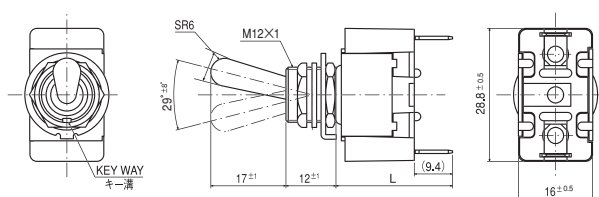
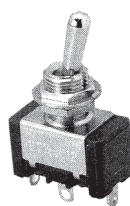
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

(ON) : Momentary.

■ shows the terminal style "(blank)", "10", or "12".

ET125 (1 pole)

Terminal pin No.2 is not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET125A	AC125V 25A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET125D	AC250V 15A				
ET125E					

L dimensions

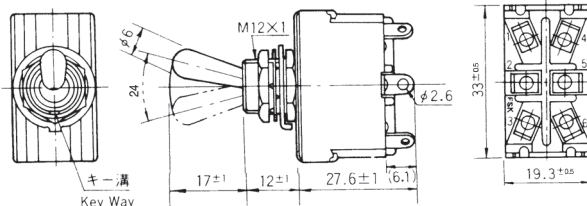
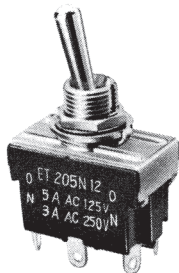
Terminal style	TAB#250	Screw Terminal	Solder Terminal
Part No.			
ET125A—Z	27.6 $\pm$ 1	28.8 $\pm$ 1	24.6 $\pm$ 1
ET125D—Z			
ET125E—Z	—	28.8 $\pm$ 1	24.6 $\pm$ 1

Switching function	Key way	Key way	Key way
Part No.			
ET125A—Z	ON	—	OFF
Connecting terminals	1—3	—	—
ET125D—Z	ON	—	ON
ET125E—Z	ON	OFF	ON
Connecting terminals	2—3	—	2—1

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

ET205 (2 poles)

Terminal pins No.2 and No.5 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

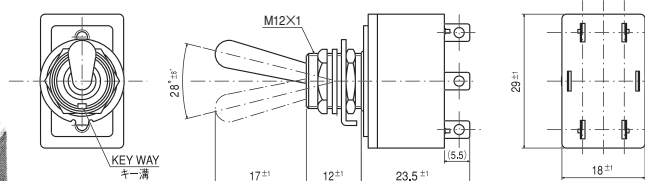
Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET205K12	AC125V 5A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET205N12	AC250V 3A				
ET205P12					

Switching function	Key way	Key way	Key way
Part No.			
★ ET205K12—Z	ON	—	OFF
Connecting terminals	1—3 4—6	—	—
★ ET205N12—Z	ON	—	ON
★ ET205P12—Z	ON	OFF	ON
Connecting terminals	2—3 5—6	—	2—1 5—4

ET206 12 (2 poles)

Terminal pins No.3 and No.6 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

Switching function	Key way	Key way	Key way
Part No.			
★ ET206K12—Z	ON	—	OFF
Connecting terminals	2—1 5—4	—	—
★ ET206N12—Z	ON	—	ON
Connecting terminals	2—1 5—4	—	2—3 5—6

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET206K12	AC125V 6A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	10,000 cycles
ET206N12	AC125V 6A AC250V 2A				

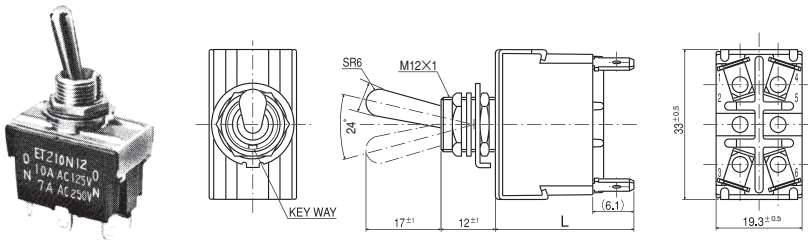
■ shows the terminal style "(blank)", "10", or "12".

☆ : Semi-standard products.

★ : Made to order products.

ET210 (2 poles)

Terminal pins No.2 and No.5 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET210K■	AC125V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET210N■	AC250V 7A				
ET210P■					
ET210R■	AC125V 10A				
ET210S■	AC250V 7A				
ET210T■					20,000 cycles
ET210PA12	AC125V 10A				

L dimensions

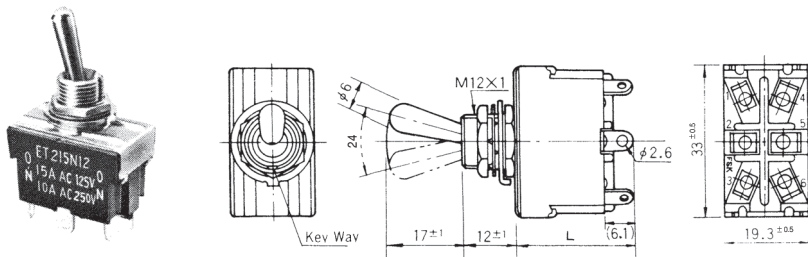
Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET210K ■-Z	30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET210P ■-Z	30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET210R ■~T ■-Z	30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET210PA12-Z	—	—	27.6 ^{±1}

Switching function	Key way	Key way	Key way
Part No.			
ET210K ■-Z	ON	—	OFF
Connecting terminals	1—3 4—6	—	—
ET210N ■-Z	ON	—	ON
ET210P ■-Z	ON	OFF	ON
ET210R ■-Z	ON	—	(ON)
ET210S ■-Z	(ON)	OFF	(ON)
ET210T ■-Z	ON	OFF	(ON)
Connecting terminals	2—3 5—6	—	2—1 5—4
★ ET210PA12-Z	ON	ON	OFF
Connecting terminals	2—3 5—6	5—6	—

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.of part numbers.

ET215 (2 poles)

Terminal pins No.2 and No.5 are not available in switches with Switching Function "K", "L", or "M".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET215K■ ET215N■	AC125V 15A AC250V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET215P■ ET215L■ ET215M■ ET215R■ ET215S■ ET215T■	AC125V 15A AC250V 10A				20,000回 cycles

L dimensions

Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET215K ■-Z	30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET215P ■-Z	30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET215 L, M ■-Z	—	28.4 ^{±1}	27.6 ^{±1}

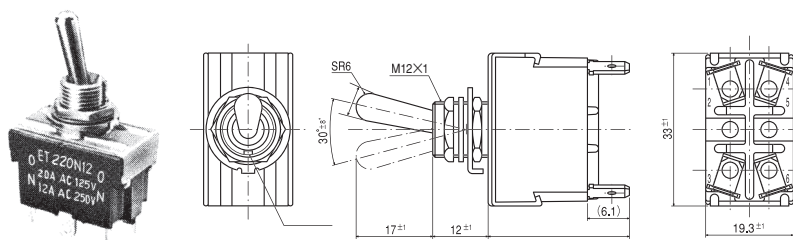
Switching function	Key way	Key way	Key way
Part No.			
ET215K ■-Z	ON	—	OFF
ET215L ■-Z	ON	—	(OFF)
Connecting terminals	1—3 4—6	—	—
ET215M ■-Z	OFF	—	(ON)
Connecting terminals	—	—	1—3 4—6
ET215N ■-Z	ON	—	ON
ET215P ■-Z	ON	OFF	ON
ET215R ■-Z	ON	—	(ON)
ET215S ■-Z	(ON)	OFF	(ON)
ET215T ■-Z	ON	OFF	(ON)
Connecting terminals	2—3 5—6	—	2—1 5—4

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.of part numbers.

ET

ET220 (2 poles)

Terminal pins No.2 and No.5 are not available in switches with Switching Function "K", "L", or "M".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET220K	AC125V 20A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET220N	AC250V 12A				
ET220P	AC250V 12A				
ET220L	AC125V 20A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET220M	AC125V 20A				
ET220R	AC250V 12A				
ET220S	AC250V 12A				
ET220T	AC250V 12A				

L dimensions

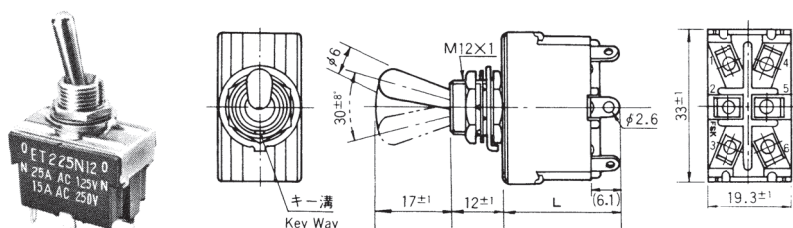
Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET220K■-Z	—	—	27.6 ^{±1}
ET220P■-Z	—	—	27.6 ^{±1}
ET220R■-Z	30.6 ^{±1}	30.8 ^{±1}	27.6 ^{±1}
ET220M■-Z	—	—	27.6 ^{±1}

Switching function	Key way	Key way	Key way
Part No.			
ET220K■-Z	ON	—	OFF
Connecting terminals	1-3 4-6	—	—
ET220M■-Z	OFF	—	(ON)
Connecting terminals	—	—	1-3 4-6
ET220N■-Z	ON	—	ON
ET220P■-Z	ON	OFF	ON
ET220R■-Z	ON	—	(ON)
ET220S■-Z	(ON)	OFF	(ON)
ET220T■-Z	ON	OFF	(ON)
Connecting terminals	2-3 5-6	—	2-1 5-4

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

ET225 (2 poles)

Terminal pins No.2 and No.5 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET225K	AC125V 25A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET225N	AC250V 15A				
ET225P	AC250V 15A				

L dimensions

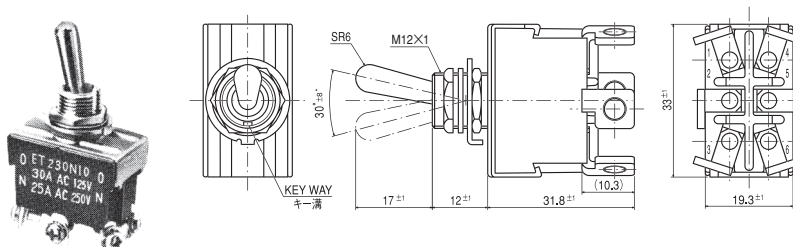
Terminal style	TAB#250	ScrewTerminal	Solder Terminal
Part No.			
ET225K■-Z	30.6 ^{±1}	31.8 ^{±1}	27.6 ^{±1}
ET225P■-Z	—	—	—

Switching function	Key way	Key way	Key way
Part No.			
ET225K■-Z	ON	—	OFF
Connecting terminals	1-3 4-6	—	—
ET225N■-Z	ON	—	ON
ET225P■-Z	ON	OFF	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

ET230 (2 poles)

Terminal pins No.2 and No.5 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET230N10	AC250V 25A	20mΩ Max. (DC2V 100mA)	AC1500V 1分間/ minute	100MΩ Min. (DC500V)	20,000 cycles
ET230P10	AC125V 30A				

Switching function	Key way	Key way	Key way
Part No.			
★ ET230N■-Z	ON	—	ON
★ ET230P■-Z	ON	OFF	ON
Connecting terminals	2-3 5-6	—	2-1 5-4

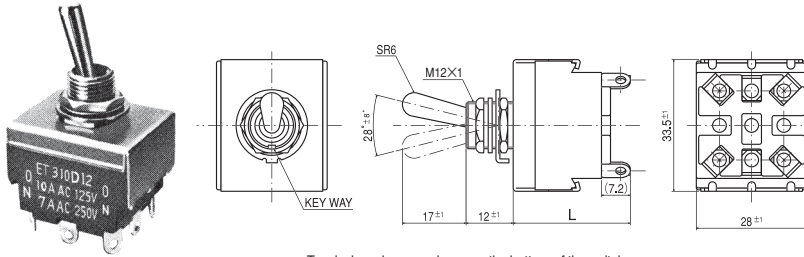
(ON) : Momentary.

■ shows the terminal style "(blank)", "10", or "12".

★ : Made to order products.

ET310 (3 poles)

Terminal pins No.2, No.5, and No.8 are not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

L dimensions

Terminal style	TAB#250	Screw Terminal	Solder Terminal
Part No.			
ET310A■-Z	34 ^{±2}	—	29.1 ^{±1}
ET310D■-Z	36.4 ^{±1}	—	29.1 ^{±1}
ET310E■-Z	36.4 ^{±1}	—	29.1 ^{±1}

Switching function	Key way	Key way	Key way
Part No.			
ET310A■-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9	—	—
ET310D■-Z	ON	—	ON
ET310E■-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9	—	2-1 5-4 8-7

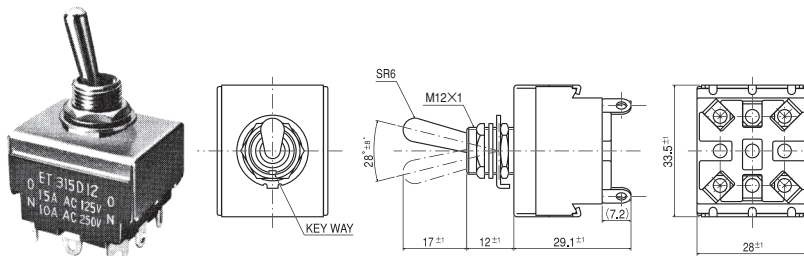
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET310A■	AC125V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET310D■	AC250V 7A				
ET310E■					

ET315 12 (3 poles)

Terminal pins No.2, No.5, and No.8 are not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

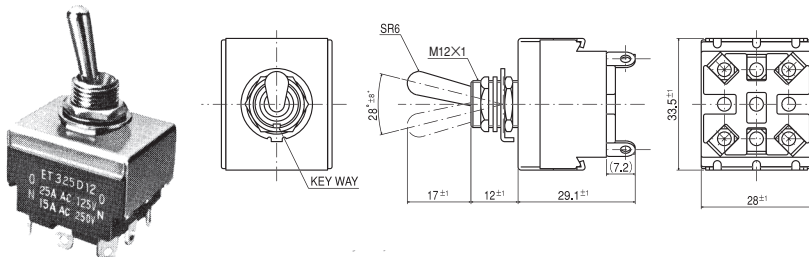
Switching function	Key way	Key way	Key way
Part No.			
★ET315A12-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9	—	—
★ET315D12-Z	ON	—	ON
★ET315E12-Z	ON	OFF	ON
★ET315F12-Z	ON	—	(ON)
★ET315G12-Z	(ON)	OFF	(ON)
★ET315H12-Z	ON	OFF	(ON)
Connecting terminals	2-3 5-6 8-9	—	2-1 5-4 8-7

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET315A12	AC125V 15A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET315D12	AC250V 10A				
ET315E12					
ET315F12	AC125V 15A				
ET315G12	AC250V 10A				
ET315H12					

ET325 12 (3 poles)

Terminal pins No.2, No.5, and No.8 are not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

Switching function	Key way	Key way	Key way
Part No.			
★ET325A12-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9	—	—
★ET325D12-Z	ON	—	ON
★ET325E12-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9	—	2-1 5-4 8-7

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET325A12 ET325D12 ET325E12	AC125V 25A AC250V 15A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

★ : Made to order products.

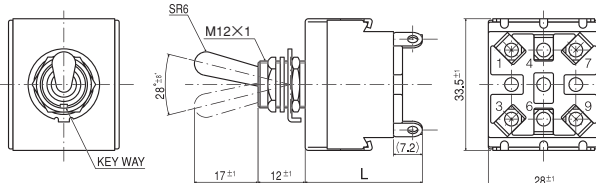
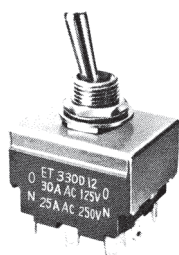
(ON) : Momentary.

■ shows the terminal style "(blank)" or "12".

ET

ET330□12 (3 poles)

Terminal pins No.2, No.5, and No.8 are not available in switches with Switching Function "A".



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET330A□ ET330D12 ET330E12	AC125V 30A AC250V 25A (DC2V 100mA)	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute 100MΩ Min. (DC500V)	20,000 cycles

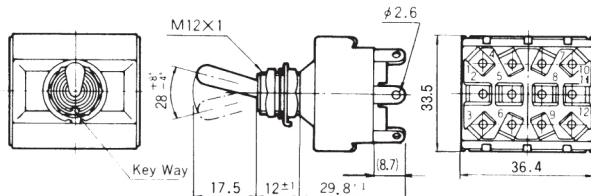
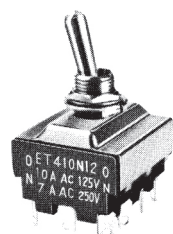
L dimensions

Terminal style	TAB#250	Screw Terminal	Solder Terminal
Part No.			
ET330A□-Z	33.9 ^{±2}	—	29.1 ^{±1}
ET330D12-Z	—	—	—
ET330E12-Z	—	—	—

Switching function	Key way	Key way	Key way
Part No.			
ET330A□-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9	—	—
☆ET330D12-Z	ON	—	ON
★ET330E12-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9	—	2-1 5-4 8-7

■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

ET410□12 (4 poles)



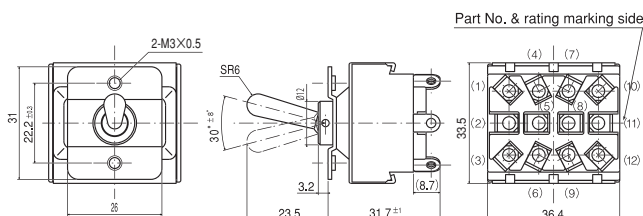
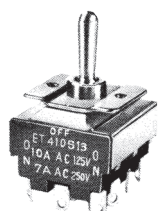
Terminal numbers are shown on the bottom of the switch.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET410N12 ET410P12	AC125V 10A AC250V 7A 20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET410R12 ET410S12 ET410T12	AC125V 10A AC250V 7A	—	—	—

Switching function	Key way	Key way	Key way
Part No.			
★ET410N12-Z	ON	—	ON
★ET410P12-Z	ON	OFF	ON
★ET410R12-Z	ON	—	(ON)
★ET410S12-Z	(ON)	OFF	(ON)
▲ET410T12-Z	ON	OFF	(ON)
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

ET410□13 (4 poles)

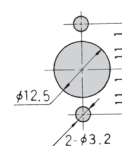


Terminal numbers are shown on the bottom of the switch.

Switching function	Viewed from part No. and rating marking side	Key way	Key way	Key way
Part No.				
★ET410R13-Z	ON	—	(ON)	—
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10	—

Panel Cut-Out Dimensions

Plate mounting type



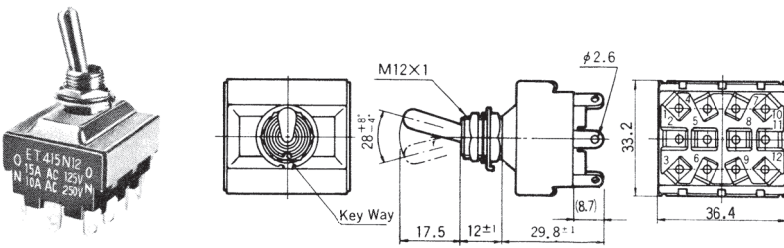
Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET410R13	AC125V 10A AC250V 7A (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

■ shows the terminal style "(blank)", "10", or "12". (ON) : Momentary. ▲ : Inquiry products. ☆ : Semi-standard products. ★ : Made to order products.

ET415□12 (4 poles)

Terminal pins No.2, No.5, No.8, and No.11 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

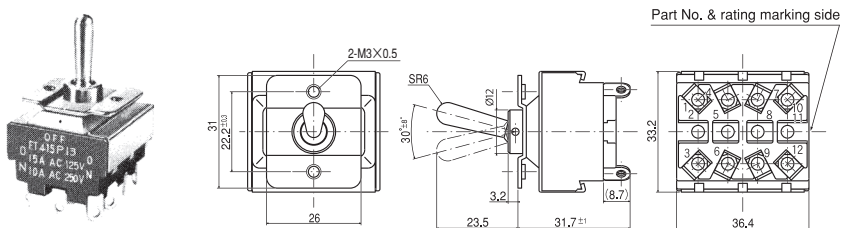
Switching function	Key way	Key way	Key way
Part No.			
★ET415K12-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9 10-12	—	—
★ET415N12-Z	ON	—	ON
★ET415P12-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET415K12 ET415N12 ET415P12	AC125V 15A AC250V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1分間/ minute	100MΩ Min. (DC500V)	20,000 cycles

ET415□13 (4 poles)

Terminal pins No.2, No.5, No.8, and No.11 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

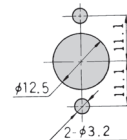
Switching function	Viewed from part No. and rating marking side		
Part No.			
★ET415K13-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9 10-12	—	—
★ET415N13-Z	ON	—	ON
▲ET415P13-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

Specifications

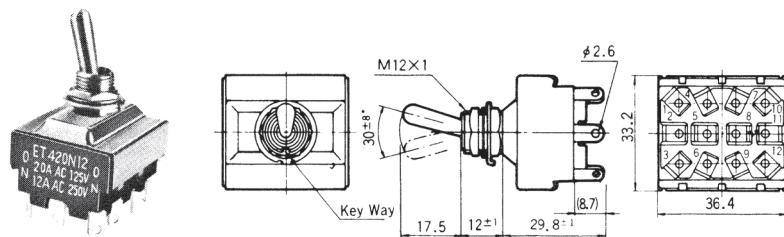
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET415K13 ET415N13 ET415P13	AC125V 15A AC250V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1分間/ minute	100MΩ Min. (DC500V)	20,000 cycles

Panel Cut-Out Dimensions

Plate mounting type

**ET420□12 (4 poles)**

Terminal pins No.2, No.5, No.8, and No.11 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

Switching function	Key way	Key way	Key way
Part No.			
★ET420K12-Z	ON	—	OFF
Connecting terminals	1-3 4-6 7-9 10-12	—	—
★ET420N12-Z	ON	—	ON
★ET420P12-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

Specifications

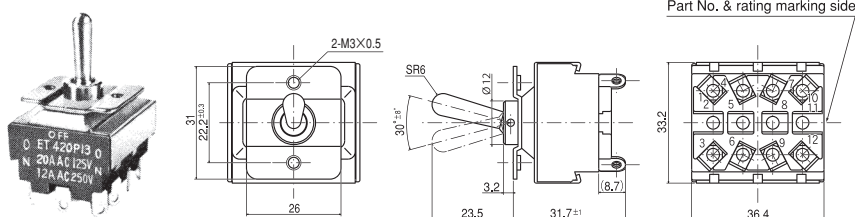
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET420K12	AC125V 20A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET420N12	AC250V 12A				
ET420P12					

★ : Made to order products. ▲ : Inquiry products.

ET

ET420□13 (4 poles)

Terminal pins No.2, No.5, No.8, and No.11 are not available in switches with Switching Function "K".



Terminal numbers are shown on the bottom of the switch.

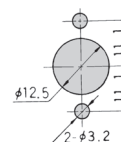
Switching function	Viewed from part No. and rating marking side		
Part No.	★ET420K13-Z	—	—
Connecting terminals	1-3 4-6 7-9 10-12	—	—
Part No.	★ET420N13-Z	—	ON
Part No.	★ET420P13-Z	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET420K13 ET420N13 ET420P13	AC125V 20A AC250V 12A (DC2V 100mA)	20mΩ Max. AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

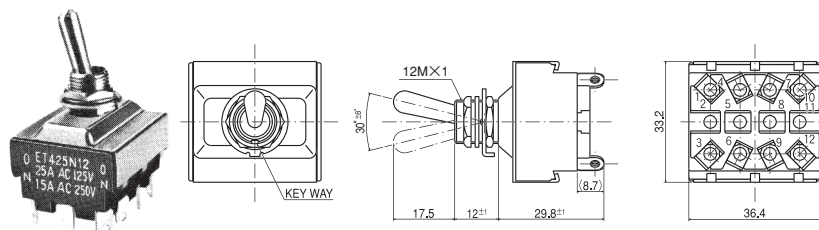
Panel Cut-Out Dimensions

Plate mounting type



ET425□12 (4 poles)

Terminal pins No.2, No.5, No.8, and No.11 are not available in switches with Switching Function "K".



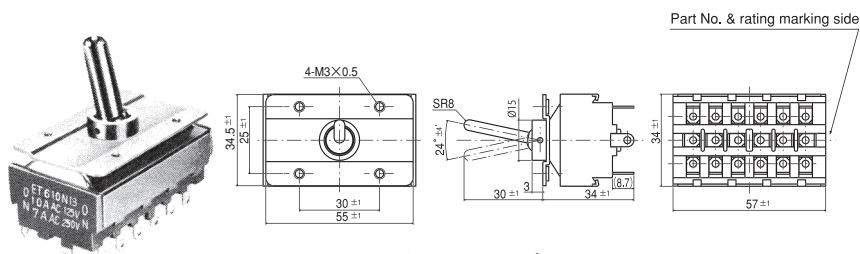
Terminal numbers are shown on the bottom of the switch.

Switching function	Key way		
Part No.	★ET425K12-Z	—	—
Connecting terminals	1-3 4-6 7-9 10-12	—	—
Part No.	★ET425N12-Z	—	ON
Part No.	★ET425P12-Z	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET425K12 ET425N12 ET425P12	AC125V 25A AC250V 15A (DC2V 100mA)	20mΩ Max. AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

ET610N13 (6 poles)

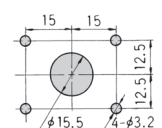


Terminal numbers are shown on the bottom of the switch.

Switching function	Viewed from part No. and rating marking side		
Part No.	☆ET610N13-Z	—	ON
Connecting terminals	2-3 5-6 8-9 11-12 14-15 17-18	—	2-1 5-4 8-7 11-10 14-13 17-16

Panel Cut-Out Dimensions

Plate mounting type

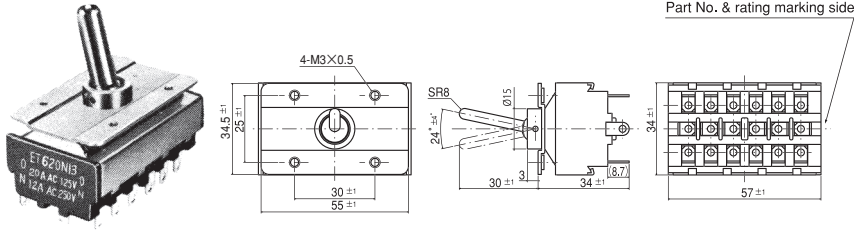


Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET610N13	AC125V 10A AC250V 7A (DC2V 100mA)	20mΩ Max. AC1500V 1 minute	100MΩ Min. (DC500V)	5,000 cycles

☆ : Semi-standard products. ★ : Made to order products.

ET620N13 (6 poles)



Terminal numbers are shown on the bottom of the switch.

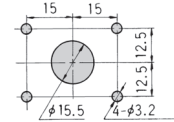
Switching function	Viewed from part No. and rating marking side		
Part No.			
★ET620N13-Z	ON	—	ON
Connecting terminals	2-3 5-6 8-9 11-12 14-15 17-18	—	2-1 5-4 8-7 11-10 14-13 17-16

Panel Cut-Out Dimensions

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET620N13 AC125V 20A AC250V 12A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	5,000 cycles

Plate mounting type



UL·CSA◆Table of Part Numbers

Terminal Style	Part No.	※1.	Part No.	※1.	Part No.	※1.	Part No.	※1.
TAB terminals	★ ET110F-Z		—		★ ET215N-Z	40.0	ET225P-Z	
	★ ET110G-Z		★ ET120G-Z		☆ ET215P-Z	39.7	▲ ET310E-Z	
	★ ET110H-Z		★ ET125A-Z	26.6	★ ET220R-Z		★ ET330A-Z	
	ET115A-Z	29.4	▲ ET125D-Z		★ ET220S-Z		—	—
	★ ET115D-Z		★ ET210S-Z		☆ ET225K-Z	39.4	—	—
	★ ET115E-Z		★ ET215K-Z	39.3	★ ET225N-Z		—	—
Screw terminals	★ ET110G10-Z		★ ET120G10-Z		★ ET215L10-Z		★ ET225N10-Z	
	☆ ET115A10-Z		★ ET125A10-Z		▲ ET215R10-Z		★ ET225P10-Z	
	★ ET115C10-Z		★ ET125D10-Z		★ ET215S10-Z		—	—
	★ ET115D10-Z		—		▲ ET215T10-Z		★ ET230N10-Z	54.4
	★ ET115E10-Z		★ ET215K10-Z		★ ET220R10-Z	53.6	★ ET230P10-Z	
	★ ET115F10-Z		☆ ET215N10-Z		★ ET220S10-Z		—	—
	▲ ET115H10-Z		★ ET215P10-Z		★ ET225K10-Z		—	—
Solder terminals	ET103A12-Z	21.0	★ ET125D12-Z	26.0	★ ET220P12-Z		★ ET410R13-Z	56.9
	★ ET103A32-Z	21.0	★ ET125E12-Z		★ ET220R12-Z		★ ET410S12-Z	
	★ ET103V12-Z	21.0	★ ET205K12-Z		★ ET220S12-Z		▲ ET410T12-Z	
	★ ET103V32-Z		★ ET205N12-Z		★ ET220T12-Z		★ ET415K12-Z	
	☆ ET105A12-Z		★ ET205P12-Z		☆ ET225K12-Z	38.1	★ ET415K13-Z	57.6
	☆ ET105D12-Z	25.8	ET206K12-Z	26.1	ET225N12-Z	38.6	★ ET415N12-Z	56.8
	☆ ET105E12-Z		☆ ET206N12-Z	26.3	ET225P12-Z		★ ET415N13-Z	
	☆ ET110A12-Z	25.8	☆ ET210K12-Z		★ ET310A12-Z	54.0	★ ET415P12-Z	
	☆ ET110D12-Z		☆ ET210N12-Z	38.0	☆ ET310D12-Z	54.6	▲ ET415P13-Z	
	★ ET110E12-Z		☆ ET210P12-Z	37.9	☆ ET310E12-Z		★ ET420K12-Z	
	★ ET110F12-Z		★ ET210R12-Z		★ ET315A12-Z		★ ET420K13-Z	
	★ ET110G12-Z		★ ET210S12-Z		★ ET315D12-Z	54.7	★ ET420N12-Z	
	ET115A12-Z	25.9	★ ET210T12-Z		★ ET315E12-Z		★ ET420N13-Z	
	★ ET115B12-Z		★ ET210PA12-Z		★ ET315F12-Z		★ ET420P12-Z	
	★ ET115C12-Z		☆ ET215K12-Z	37.9	★ ET315G12-Z		★ ET420P13-Z	55.0
	ET115D12-Z	25.9	▲ ET215L12-Z		★ ET315H12-Z		★ ET425K12-Z	
	★ ET115E12-Z	25.9	★ ET215M12-Z		★ ET325A12-Z		★ ET425N12-Z	
	★ ET115F12-Z		☆ ET215N12-Z	38.1	★ ET325D12-Z		★ ET425P12-Z	106.0
	★ ET115G12-Z		★ ET215P12-Z	37.8	★ ET325E12-Z		☆ ET610N13-Z	105.0
	★ ET115H12-Z	25.0	★ ET215R12-Z		★ ET330A12-Z		★ ET620N13-Z	
	☆ ET120A12-Z		ET215S12-Z	38.4	☆ ET330D12-Z	54.2	—	—
	★ ET120D12-Z		★ ET215T12-Z		★ ET330E12-Z		—	—
	▲ ET120F12-Z		★ ET220K12-Z		—		—	—
	★ ET120G12-Z		—		★ ET410N12-Z	57.4	—	—
	★ ET120H12-Z		▲ ET220M12-Z		★ ET410P12-Z		—	—
	☆ ET125A12-Z	25.9	★ ET220N12-Z		★ ET410R12-Z	56.5	—	—

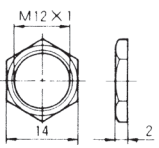
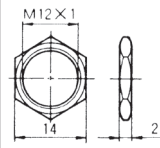
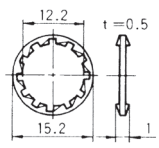
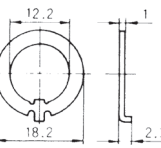
As shown in the above table, not all products are UL-recognized or CSA-certified. Please check with your local sales representative if you have any questions.

Note: For overseas standards, see P.627.

※1: Switch mass (g): includes accessories = hex nut, locking ring, lock washer and terminal screw

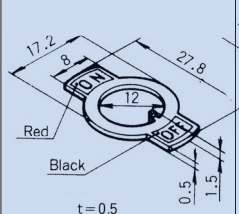
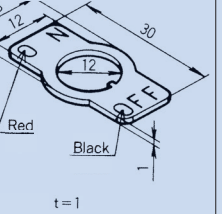
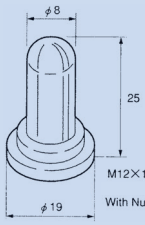
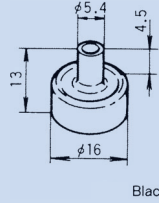
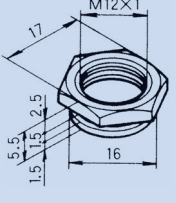
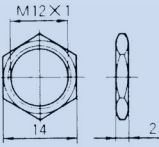
★: Made to order products. ☆: Semi-standard products. ▲: Inquiry products.

Standard Accessories — 《Supplied with switch》

Part Name	Hex Nut	Hex Nut	Lockwasher	Locking Ring
Part No.	140008010235	140008010221	140008030055	140008020065
Dimensions				
Finish	Nickel plated	Zinc plated	Zinc plated	Zinc plated

		
ET115 ET215	140000080639	140008030057
ET120 ET220	140000080651	140008030058
ET125 ET225 ET230	140000080652	140008030060

Optional Accessories — 《Supplied separately》

Type	ET · 8B		ET	ET	
Part Name	Plate	Plate	Waterproof boot	Boot	Bushing
Part No.	140008040021	140008040025	Red 140000610335 Gray 140000610334 Black 140000610333	140000610080	140008010244
Dimensions					
Type	ET				
Part Name	Hex Nut				
Part No.	140008010238				
Dimensions					
	Chromium				

Handling Precautions

1. Soldering Specifications

(1) Manual Soldering

Device : Soldering iron
420°C, Max.; 3 seconds, Max.

(2) Waterproof boot

- ① The boot is fixed to the switch with the built-in screw.
- ② The boot cannot be used for plate-mounting switches.

2. Flux Cleaning

- (1) Solvent : Fluorine or Alcohol type.
- (2) The **ET** series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.

Packaging Specification

