ET Standard Size Toggle Switch

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 | Swiching function | Terminal styles

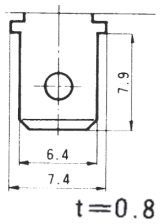
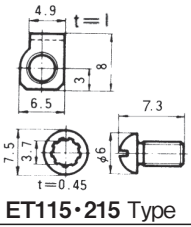
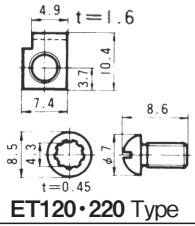
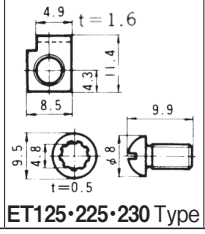
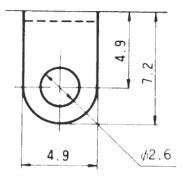
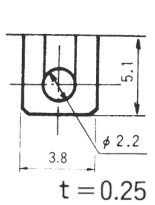
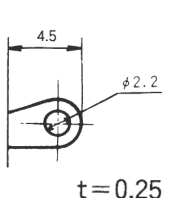
Fig.	No. of poles
1	1 pole
2	2 poles
3	3 poles
4	4 poles
6	6 poles

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 SolderTerminal
32	Solder Terminal

■Terminal Style and Dimentions

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

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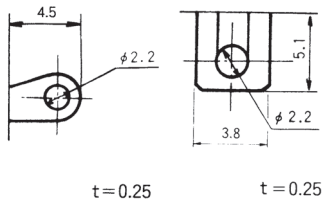
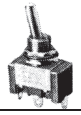
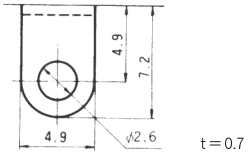
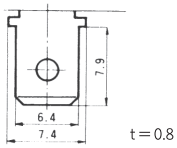
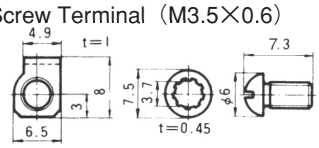
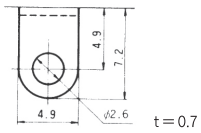
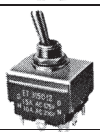
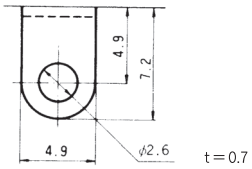
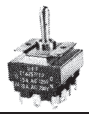
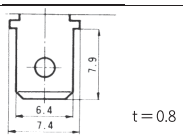
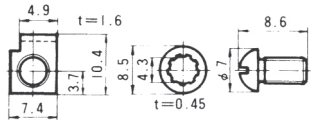
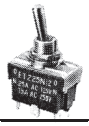
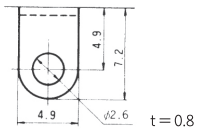
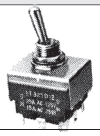
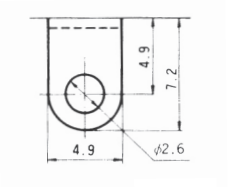
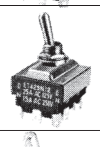
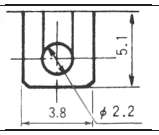
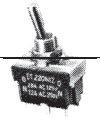
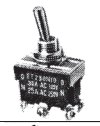
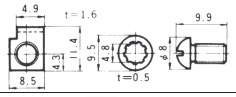
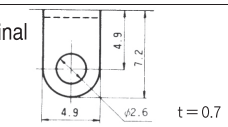
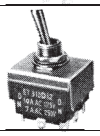
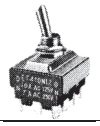
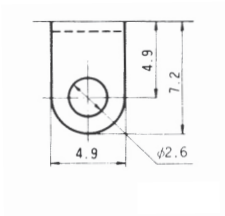
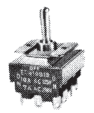
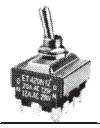
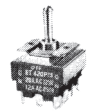
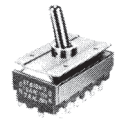
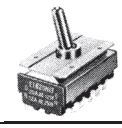
ET Series Selection Table

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style	Page
ET103		1	AC125V 3A	ON — OFF ON — ON Double pole type	Solder Terminal 	**416**
ET105		1	AC125V 5A AC250V 3A	ON — OFF ON — ON ON — OFF — ON	Solder Terminal 	**416**
ET205		2				**418**
ET110		1	AC125V 10A AC250V 7A	ON — OFF ON — ON ON — OFF — ON ON — (ON) (ON) — OFF — (ON) ON — OFF — (ON)	TAB#250 	**417**
ET210		2			Screw Terminal（M3.5×0.6） 	**419**
			AC125V 10A	ON — ON — OFF		
ET115		1	AC125V 15A AC250V 10A	ON — OFF ON — (OFF) OFF — (ON) ON — ON ON — OFF — ON ON — (ON) (ON) — OFF — (ON) ON — OFF — (ON)		**417**
ET215		2			Solder Terminal 	**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 — (ON) (ON) — OFF — (ON) ON — OFF — (ON)	TAB#250  Screw Terminal（M4.5×0.75） 	**417**
ET125		1	AC125V 25A AC250V 15A	ON — OFF ON — ON ON — OFF — ON		**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 ON — ON ON — OFF — ON	Solder Terminal 	**421**
ET425		4				**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			Solder Terminal 	**422**
ET410 /Plate type				ON — (ON) (ON) — OFF — (ON) ON — OFF — (ON)		
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.

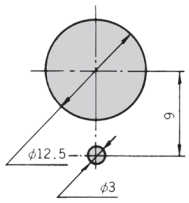
● Refer to P.425 for **UL**-recognized and **CSA**, **PSE**-certified products.

(ON) and (OFF) : Momentary.

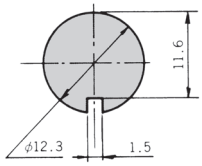
■Panel Cut-Out Dimensions

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

Panel thickness : 5.5mm max.



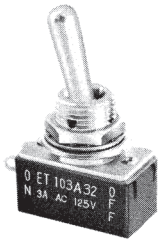
With **Locking Ring**

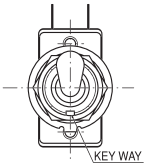


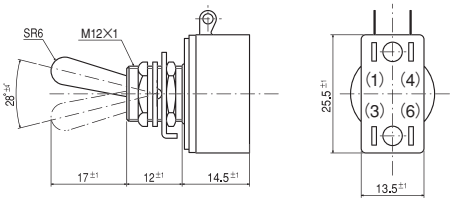
Without **Locking Ring**

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.

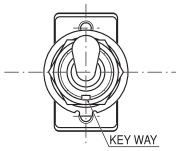
Switching function / Part No.	Key way	Key way	Key way
★ **ET103A32−Z**	ON	—	OFF
Connecting terminals	1−4	—	—
★ **ET103V32−Z**	ON	—	ON
Connecting terminals	1−4	—	3−6

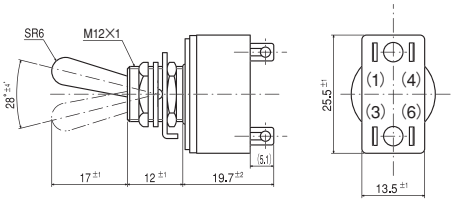
Terminal pins No.3 and No.6 are not available in switches with Switching Function "**A**".

■Specifications

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

ET103□12 (1 pole)





Terminal numbers are shown on the bottom of the switch.

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

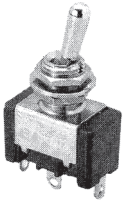
Terminal pins No.3 and No.6 are not available in switches with Switching Function "**A**".

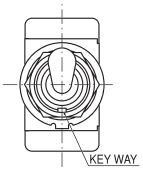
■Specifications

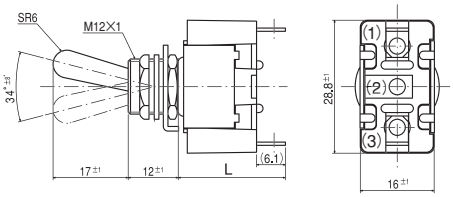
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET103A12 **ET103V12**	AC125V 3A	30mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	10,000cycles

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

Terminal style / Part No.	Solder Terminal
ET105A12−Z	$24.6^{\pm1}$
ET105D12−Z	$24.6^{\pm1}$
ET105E12−Z	$24.6^{\pm1}$

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

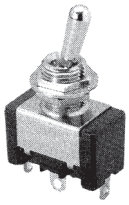
■Specifications

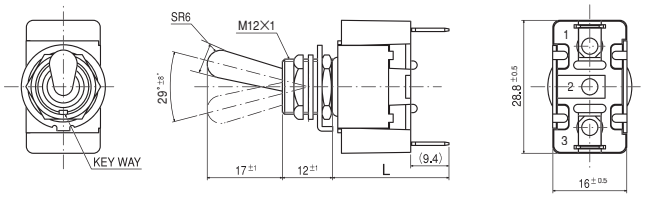
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET105A12 **ET105D12** **ET105E12**	AC125V 5A AC250V 3A	20mΩ Max. (DC2V 100mA)	AC1500V 1分間/minute	100MΩ Min. (DC500V)	20,000 cycles

☆ : 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■ **ET110D■** **ET110E■**	AC125V 10A AC250V 7A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET110F■ **ET110G■** **ET110H■**	AC125V 10A AC250V 7A				20,000 cycles

L dimensions

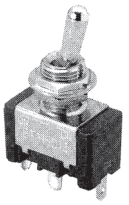
Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET110A■·D■−Z	—	—	$24.6^{\pm1}$
ET110E■−Z	—	—	$24.6^{\pm1}$
ET110F■−Z	$27.6^{\pm1}$	—	$24.6^{\pm1}$
ET110G■·H■−Z	$27.6^{\pm1}$	$25.4^{\pm1}$	$24.6^{\pm1}$

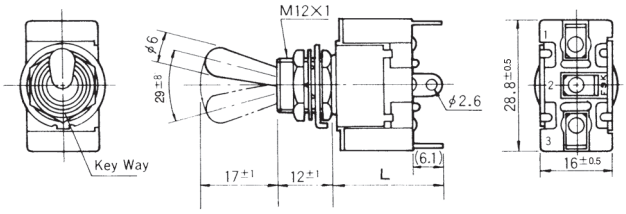
Part No. \ Switching function	Key way	Key way	Key way
ET110A■−Z	ON	—	OFF
Connecting terminals	1−3	—	—
ET110D■−Z	ON	—	ON
ET110E■−Z	ON	OFF	ON
ET110F■−Z	ON	—	(ON)
ET110G■−Z	(ON)	OFF	(ON)
ET110H■−Z	ON	OFF	(ON)
Connecting terminals	2−3	—	2−1

■ : 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■ **ET115D■** **ET115E■**	AC125V 15A AC250V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET115B■ **ET115C■** **ET115F■** **ET115G■** **ET115H■**	AC125V 15A AC250V 10A				20,000 cycles

L dimensions

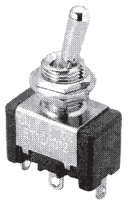
Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET115A■·D■−Z	$27.6^{\pm1}$	$25.4^{\pm1}$	$24.6^{\pm1}$
ET115E■−Z	$27.6^{\pm1}$	$25.4^{\pm1}$	$24.6^{\pm1}$
ET115B■−Z	—	—	$24.6^{\pm1}$
ET115C■·F~H■−Z	—	$25.4^{\pm1}$	$24.6^{\pm1}$

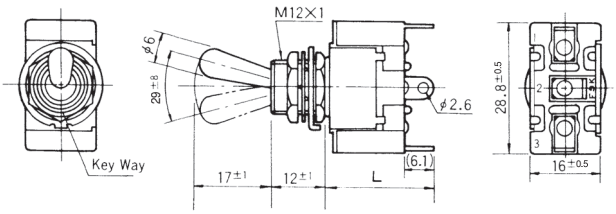
Part No. \ Switching function	Key way	Key way	Key way
ET115A■−Z	ON	—	OFF
ET115B■−Z	ON	—	(OFF)
Connecting terminals	1−3	—	—
ET115C■−Z	OFF	—	(ON)
Connecting terminals	—	—	1−3
ET115D■−Z	ON	—	ON
ET115E■−Z	ON	OFF	ON
ET115F■−Z	ON	—	(ON)
ET115G■−Z	(ON)	OFF	(ON)
ET115H■−Z	ON	OFF	(ON)
Connecting terminals	2−3	—	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■ **ET120D■**	AC125V 20A AC250V 12A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET120F■ **ET120G■** **ET120H■**	AC125V 20A AC250V 12A				

L dimensions

Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET120A■·D■−Z	—	—	$24.6^{\pm1}$
ET120F■~H■−Z	$27.6^{\pm1}$	$27.8^{\pm1}$	$24.6^{\pm1}$

Part No. \ Switching function	Key way	Key way	Key way
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

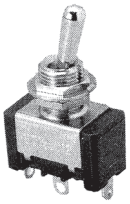
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

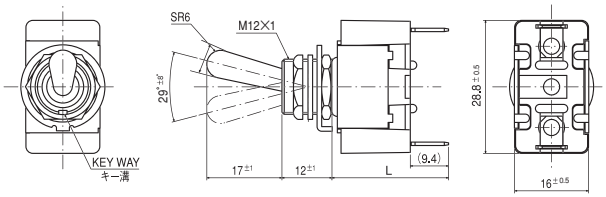
(ON) : Momentary.

■ 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.

L dimensions

Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET125A■−Z **ET125D■−Z**	27.6±1	28.8±1	24.6±1
ET125E■−Z	—	28.8±1	24.6±1

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

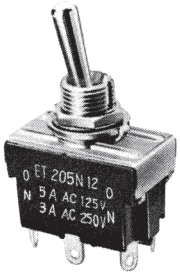
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

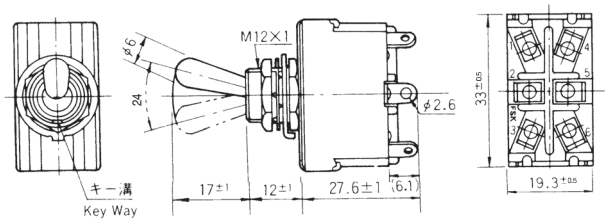
■Specifications

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

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.

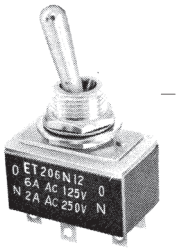
Part No. \ Switching function	Key way	Key way	Key way
★ **ET205K12−Z**	ON	—	OFF
Connecting terminals	1−3 4−6	—	—
★ **ET205N12−Z**	ON	—	ON
★ **ET205P12−Z**	ON	OFF	ON
Connecting terminals	2−3 5−6	—	2−1 5−4

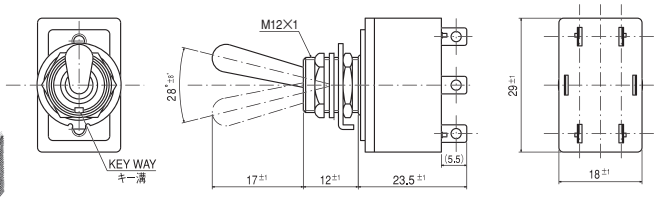
■Specifications

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

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.

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

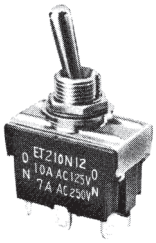
■Specifications

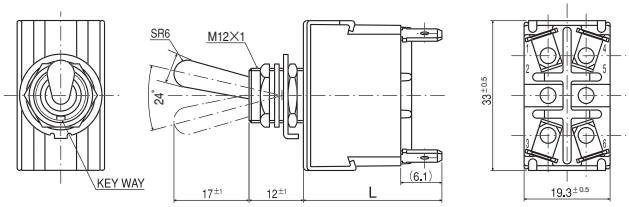
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET206K12	AC125V 6A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	10,000 cycles
ET206N12	AC125V 6A AC250V 2A				

■ 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.

L dimensions

Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET210K■·N■−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

Part No. \ Switching function	Key way	Key way	Key way
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	—

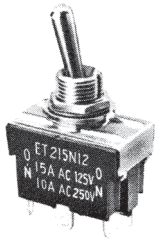
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.of part numbers.

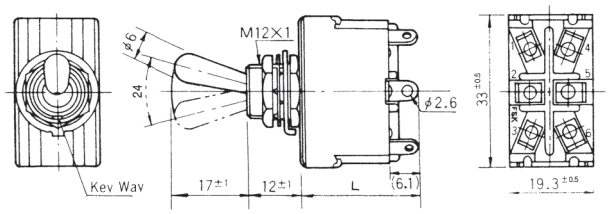
■Specifications

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

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.

L dimensions

Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET215K■·N■−Z	30.6±1	28.4±1	27.6±1
ET215P■−Z	30.6±1	28.4±1	27.6±1
ET215 L·M / R~T ■−Z	—	28.4±1	27.6±1

Part No. \ Switching function	Key way	Key way	Key way
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.

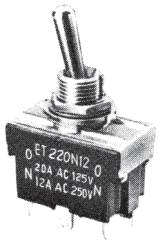
■Specifications

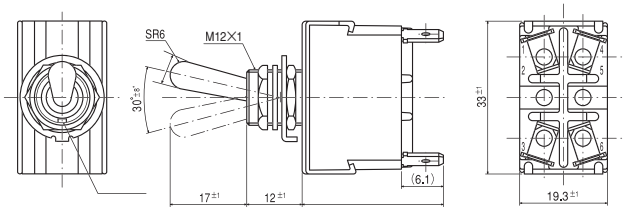
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET215K■ **ET215N■**	AC125V 15A AC250V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	30,000 cycles
ET215P■ **ET215L■** **ET215M■** **ET215R■** **ET215S■** **ET215T■**	AC125V 15A AC250V 10A		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

(ON) and (OFF) : Momentary. ■ shows the terminal style "(blank)", "**10**", or "**12**".

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■ **ET220N■** **ET220P■**	AC125V 20A AC250V 12A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles
ET220L■ **ET220M■** **ET220R■** **ET220S■** **ET220T■**	AC125V 20A AC250V 12A				

L dimensions

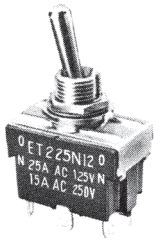
Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET220K■·N■−Z	—	—	$27.6^{\pm1}$
ET220P■−Z	—	—	$27.6^{\pm1}$
ET220R■~T■−Z	$30.6^{\pm1}$	$30.8^{\pm1}$	$27.6^{\pm1}$
ET220M■−Z	—	—	$27.6^{\pm1}$

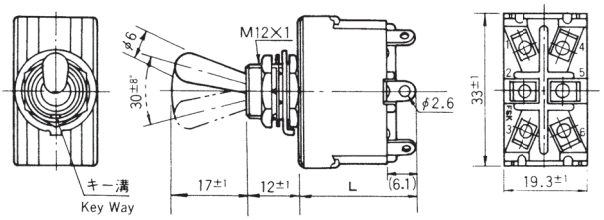
Part No. \ Switching function	Key way	Key way	Key way
ET220K■−Z	ON	—	OFF
Connecting terminals	1−3 4−6	—	—
ET220M■−Z	OFF	—	(ON)
Connecting terminals	—	—	1−3 4−6
ET220N■−Z	ON	—	ON
ET220P■−Z	ON	OFF	ON
ET220R■−Z	ON	—	(ON)
ET220S■−Z	(ON)	OFF	(ON)
ET220T■−Z	ON	OFF	(ON)
Connecting terminals	2−3 5−6	—	2−1 5−4

■ : 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■ **ET225N■** **ET225P■**	AC125V 25A AC250V 15A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

L dimensions

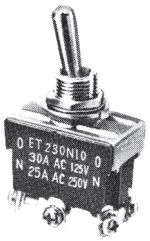
Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET225K■·N■−Z **ET225P■−Z**	$30.6^{\pm1}$	$31.8^{\pm1}$	$27.6^{\pm1}$

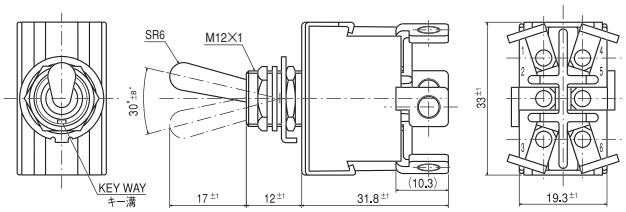
Part No. \ Switching function	Key way	Key way	Key way
ET225K■−Z	ON	—	OFF
Connecting terminals	1−3 4−6	—	—
ET225N■−Z	ON	—	ON
ET225P■−Z	ON	OFF	ON
Connecting terminals	2−3 5−6	—	2−1 5−4

■ : 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

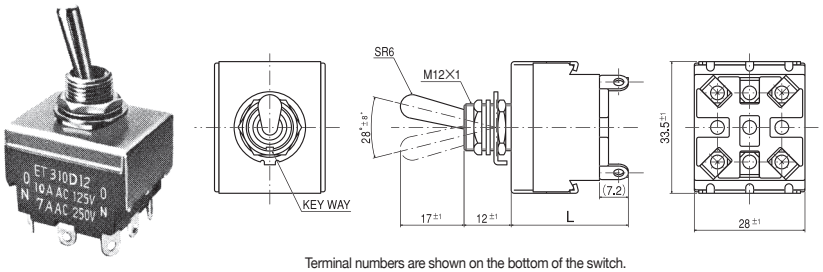
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET230N10 **ET230P10**	AC250V 25A AC125V 30A	20mΩ Max. (DC2V 100mA)	AC1500V 1分間/ minute	100MΩ Min. (DC500V)	20,000 cycles

Part No. \ Switching function	Key way	Key way	Key way
★ **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

Part No. \ Terminal style	TAB#250	Screw Terminal	Solder Terminal
ET310A■−Z	$34^{\pm2}$	—	$29.1^{\pm1}$
ET310D■−Z **ET310E■−Z**	$36.4^{\pm1}$		

Part No. \ Switching function	Key way	Key way	Key way
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

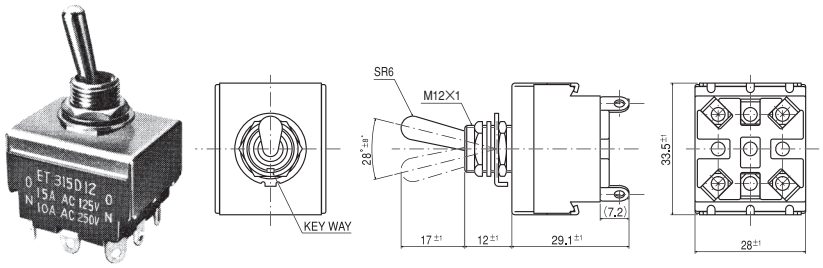
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

■Specifications

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

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.

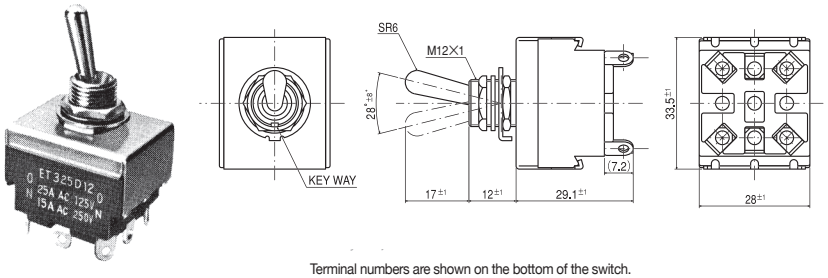
Part No. \ Switching function	Key way	Key way	Key way
★ET315A12−Z	ON	—	OFF
Connecting terminals	1−3 4−6 7−9	—	—
★ET315D12−Z	ON	—	ON
★ET315E12−Z	ON	OFF	ON
★ET315F12−Z	ON	—	(ON)
★ET315G12−Z	(ON)	OFF	(ON)
★ET315H12−Z	ON	OFF	(ON)
Connecting terminals	2−3 5−6 8−9	—	2−1 5−4 8−7

■Specifications

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

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.

Part No. \ Switching function	Key way	Key way	Key way
★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

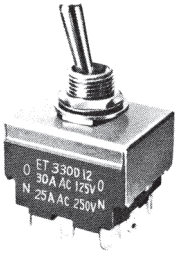
■Specifications

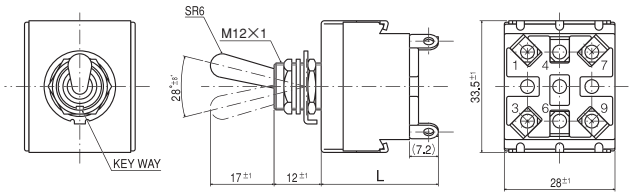
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET325A12 **ET325D12** **ET325E12**	AC125V 25A AC250V 15A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

★ : Made to order products. (ON) : Momentary. ■ shows the terminal style "(blank)" or "**12**".

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.

L dimensions

Part No. \ Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET330A■−Z	33.9$^{\pm2}$	—	29.1$^{\pm1}$
ET330D12−Z **ET330E12−Z**	—		

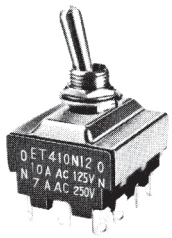
Part No. \ Switching function	Key way	Key way	Key way
ET330A■−Z	ON	—	OFF
Connecting terminals	1−3 4−6 7−9	—	—
☆**ET330D12−Z**	ON	—	ON
★**ET330E12−Z**	ON	OFF	ON
Connecting terminals	2−3 5−6 8−9	—	2−1 5−4 8−7

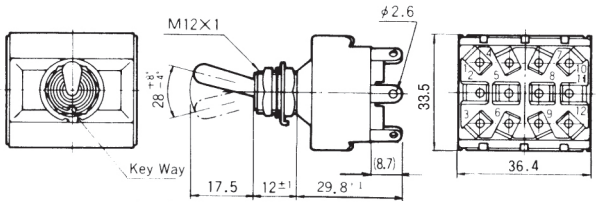
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

■Specifications

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

ET410□12 (4 poles)





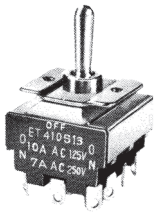
Terminal numbers are shown on the bottom of the switch.

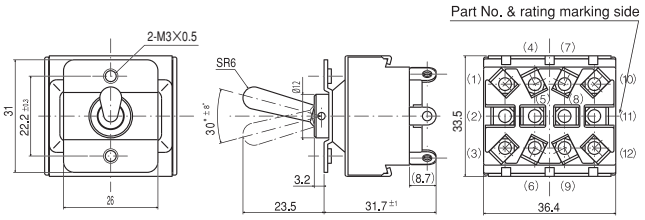
Part No. \ Switching function	Key way	Key way	Key way
★**ET410N12−Z**	ON	—	ON
★**ET410P12−Z**	ON	OFF	ON
★**ET410R12−Z**	ON	—	(ON)
★**ET410S12−Z**	(ON)	OFF	(ON)
▲**ET410T12−Z**	ON	OFF	(ON)
Connecting terminals	2−3 5−6 8−9 11−12	—	2−1 5−4 8−7 11−10

■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				

ET410□13 (4 poles)





Terminal numbers are shown on the bottom of the switch.

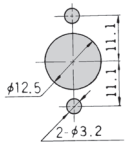
Part No. \ Switching function	Viewed from part No. and rating marking side		
★**ET410R13−Z**	ON	—	(ON)
Connecting terminals	2−3 5−6 8−9 11−12	—	2−1 5−4 8−7 11−10

■Specifications

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

■Panel Cut-Out Dimensions

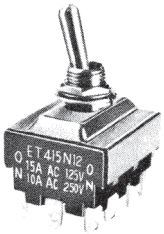
Plate mounting type

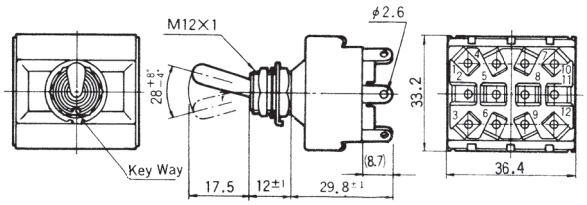


■ shows the terminal style "(blank)", "**10**", or "**12**". (ON) : Momentary. ▲ : Inquiry products. ☆ : Semi-standard products. ★ : Made to order products.

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.

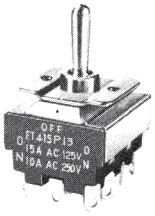
Switching function / Part No.	Key way	Key way	Key way
★ET415K12−Z	ON	—	OFF
Connecting terminals	1−3 4−6 7−9 10−12	—	—
★ET415N12−Z	ON	—	ON
★ET415P12−Z	ON	OFF	ON
Connecting terminals	2−3 5−6 8−9 11−12	—	2−1 5−4 8−7 11−10

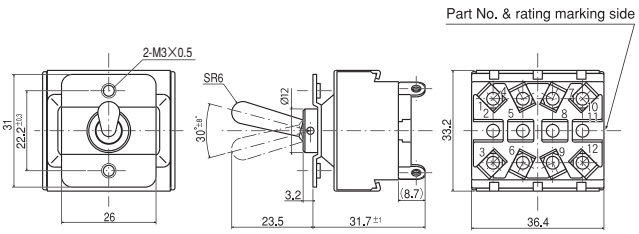
■Specifications

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.

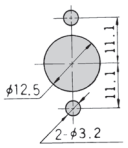
Switching function / Part No.	Viewed from part No. and rating marking side		
★ET415K13−Z	ON	—	OFF
Connecting terminals	1−3 4−6 7−9 10−12	—	—
★ET415N13−Z	ON	—	ON
▲ET415P13−Z	ON	OFF	ON
Connecting terminals	2−3 5−6 8−9 11−12	—	2−1 5−4 8−7 11−10

■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

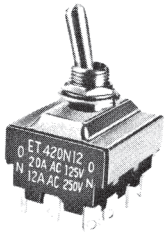
■Panel Cut-Out Dimensions

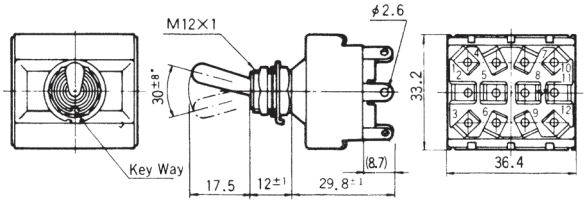
Plate mounting type



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 / Part No.	Key way	Key way	Key way
★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

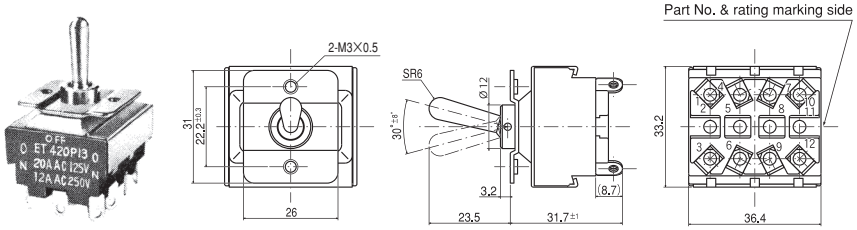
■Specifications

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

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

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.

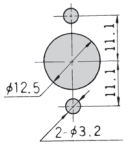
Switching function / Part No.	Viewed from part No. and rating marking side		
★ET420K13−Z	ON	—	OFF
Connecting terminals	1−3 4−6 7−9 10−12	—	—
★ET420N13−Z	ON	—	ON
★ET420P13−Z	ON	OFF	ON
Connecting terminals	2−3 5−6 8−9 11−12	—	2−1 5−4 8−7 11−10

■Specifications

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

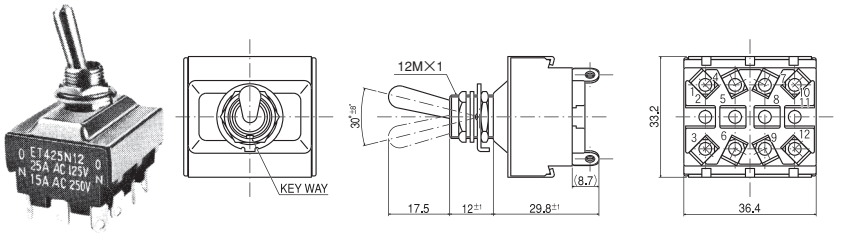
■Panel Cut-Out Dimensions

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**".



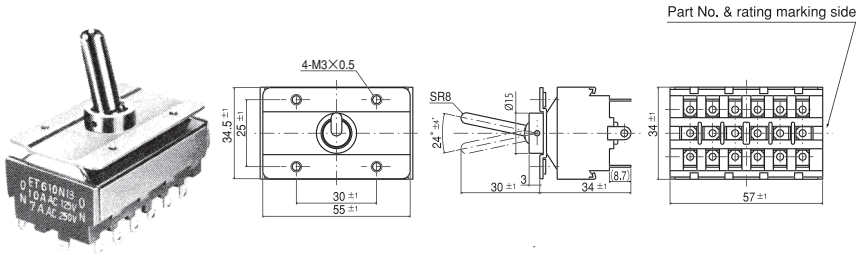
Terminal numbers are shown on the bottom of the switch.

Switching function / Part No.	Key way	Key way	Key way
★ET425K12−Z	ON	—	OFF
Connecting terminals	1−3 4−6 7−9 10−12	—	—
★ET425N12−Z	ON	—	ON
★ET425P12−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
ET425K12 ET425N12 ET425P12	AC125V 25A AC250V 15A	20mΩ Max. (DC2V 100mA)	AC1500V 1 minute	100MΩ Min. (DC500V)	20,000 cycles

ET610N13 (6 poles)

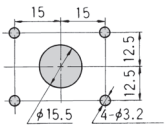


Terminal numbers are shown on the bottom of the switch.

Switching function / Part No.	Viewed from part No. and rating marking side		
☆ET610N13−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

Plate mounting type

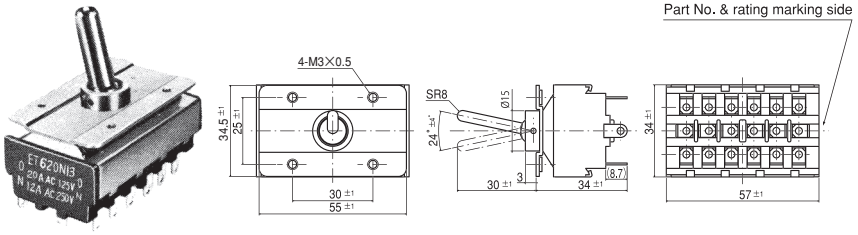


■Specifications

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

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

ET620N13 (6 poles)

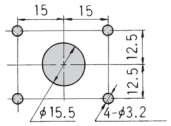


Terminal numbers are shown on the bottom of the switch.

Switching function / Part No.	Viewed from part No. and rating marking side		
★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

Plate mounting type



■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

■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	———	——

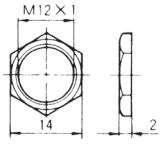
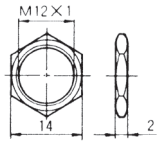
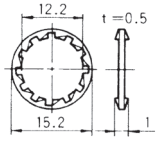
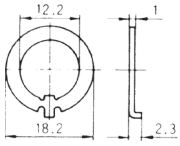
As shown in the above table, not all products are UL-recognized or CSA-certified.Please check with your local sales representative if you have any questions.

Note: For overseas standards, see P.627.

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

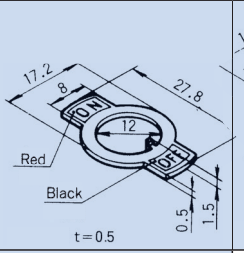
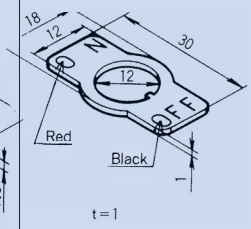
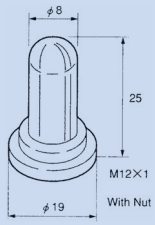
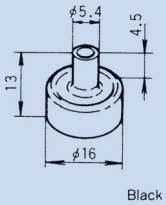
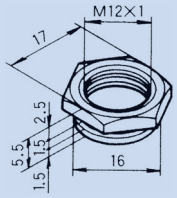
★ : Made to order products. ☆ : Semi-standard products. ▲ : Inquiry products.

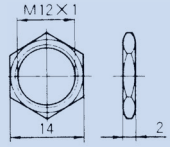
■ Standard Accessories — 《Supplied with switch》

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

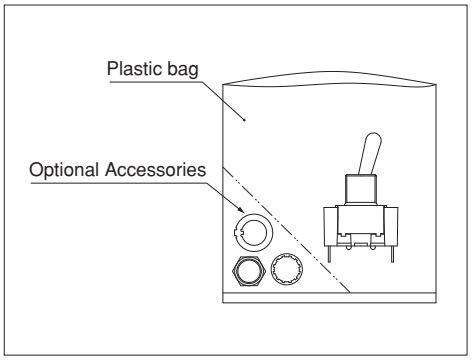
■Handling Precautions

1. Soldering Specifications

(1)Manual Soldering
Device ： Soldering iron
420℃, Max.; 3 seconds, Max.

(2) Waterproof boot
①The boot is fixed to the switch with the built-in screw.
②The 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