

ET

Standard Size Toggle Switches

RoHS Compliant



■ Introduction

The ET series is our standard size high capacity toggle switch. The ET series is 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	1pole
2	2poles
3	3poles
4	4poles
6	6poles

Fig.	AC125V	AC250V
05	5A	3A
10	10A	(7A)
15	15A	10A

Fig.	AC125V	AC250V
20	20A	12A
25	25A	15A
30	30A	(25A)

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

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

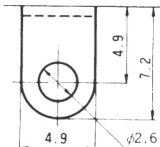
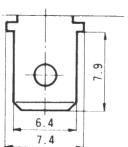
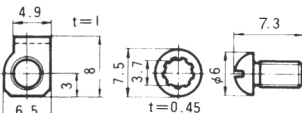
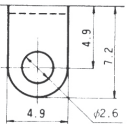
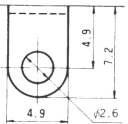
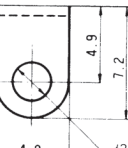
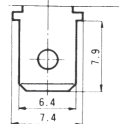
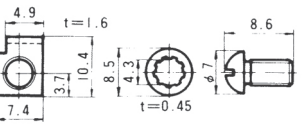
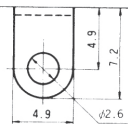
Note: Some model names may not be registered. Please refer to the product list for this series.

■ Terminal shape and dimensions

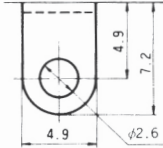
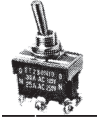
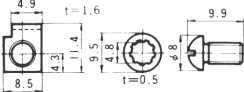
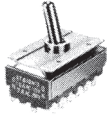
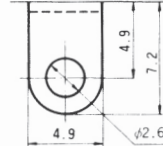
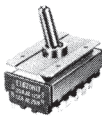
TAB#250 (Style:-)	Screw Terminal (Style:10)		Solder Terminal
	M3.5×0.6	M4.5×0.75	Solder Terminal (Style:12•13)
 t=0.8	 ET115•215 Type	 ET125•230 Type	 t=0.7

(ON)and(OFF) : Momentary.

ET Series Selection Table

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style
ET105		1	AC125 V 5 A AC250 V 3 A	ON - OFF ON - ON ON - OFF - ON	Solder Terminal  t=0.7
ET110		1	AC125 V 10 A AC250 V 7 A	ON - OFF ON - ON ON - OFF - ON ON - (ON)	TAB # 250  t=0.8
ET210		2	AC125 V 10 A	ON - ON - OFF	Screw Terminal (M3.5×0.6)  t=0.45
ET115		1	AC125 V 15 A AC250 V 10 A	ON - OFF OFF - (ON) ON - ON ON - OFF - ON (ON) - OFF - (ON) ON - OFF - (ON)	Solder Terminal  t=0.7
ET215		2			Solder Terminal  t=0.7
ET315		3			Solder Terminal  t=0.7
ET120		1	AC125 V 20 A AC250 V 12 A	ON - OFF	TAB # 250  t=0.8
ET125		1	AC125 V 25 A AC250 V 15 A	ON - OFF ON - ON ON - OFF - ON	Screw Terminal (M4.5×0.6)  t=0.45
ET225		2			Solder Terminal  t=0.8

(ON):Momentary.

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style
ET425		4	AC125 V 25 A AC250 V 15 A	ON - OFF ON - ON	Solder Terminal  t=0.7
ET220		2	AC125 V 20 A AC250 V 12 A	ON - OFF ON - ON	Solder Terminal
ET230		2	AC125 V 30 A AC250 V 25 A	ON - ON ON - OFF - ON	Screw Terminal (M4.5×0.75) 
ET310		3	AC125 V 10 A AC250 V 7 A	ON - OFF ON - ON ON - OFF - ON	Solder Terminal
ET610N Plate type		6	AC125 V 10 A AC250 V 7 A	ON - ON	Solder Terminal 
ET620N Plate type		6	AC125V 20A AC250V 12A	ON - ON	

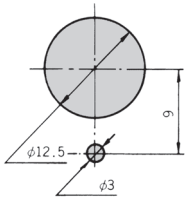
● Ratings are based on resistance load.

Panel Cut-Out Dimensions

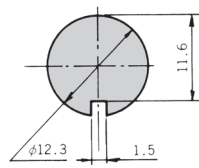
Panel thickness : 5.5mm max.

●Refer to for a list of accessories.

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



With Locking Ring

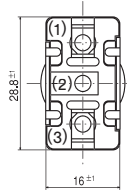
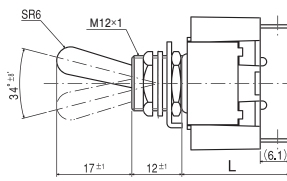
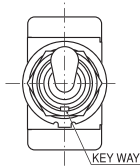
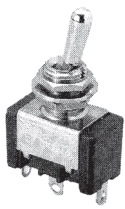


Without Locking Ring

ET105□12 (1 pole)

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

L dimensions



Terminal numbers are shown on the bottom of the switch.

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

Part No.	Switching function	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

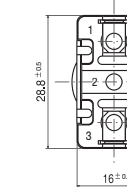
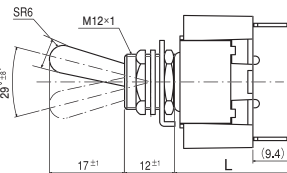
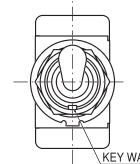
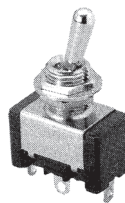
Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET105A12	AC125 V 5 A AC250 V 3 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500V)	20,000回 cycles
ET105D12					
ET105E12					

ET110 (1 pole)

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

L dimensions



Terminal numbers are shown on the bottom of the switch.

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

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)
Connecting terminals	2-3	—	—	2-1

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET110A■	AC125 V 10 A	20 mΩ Max. (DC2V 100 mA)	AC1500V minute	100 MΩ Min. (DC500 V)	30,000 cycles
ET110D■	AC250 V 7 A				
ET110E■					
ET110F■	AC125 V 10 A AC250 V 7 A				20,000 cycles

■ : Refer to "Table of Part Numbers" 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".

L dimensions

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

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

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

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET115A■ ET115D■ ET115E■	AC125 V 15 A AC250 V 10 A	20 mΩ Max. (DC2V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	30,000 cycles
ET115C■ ET115G■ ET115H■	AC125 V 15 A AC250 V 10 A				20,000 cycles

ET120 (1 pole)

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

L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET120A■-Z		—	—	24.6 ^{±1}

Part No.	Switching function	Key way	Key way	Key way
ET120A■-Z		ON	—	OFF
Connecting terminals		1-3	—	—

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

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET120A■	AC125 V 20 A AC250 V 12 A	20 mΩ Max. (DC2 V 100 mA)	AC1500V minute	100 MΩ Min. (DC500 V)	20,000 cycles

ET125 (1 pole)

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

L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET125A■-Z ET125D■-Z		27.6 ^{±1}	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
Connecting terminals		2-3	—	2-1

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

Specifications

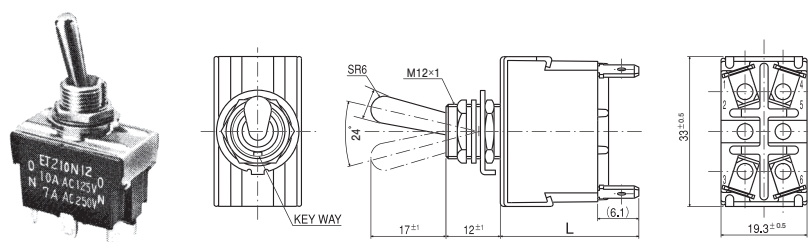
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET125A■ ET125D■	AC125 V 25 A AC250 V 15 A	20 mΩ Max. (DC2V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles

(ON) : Momentary.

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

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	AC125 V 10 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	30,000 cycles
ET210N	AC250 V 7 A				20,000 cycles
ET210P	AC250 V 7 A				
ET210PA12	AC125 V 10 A				

L dimensions

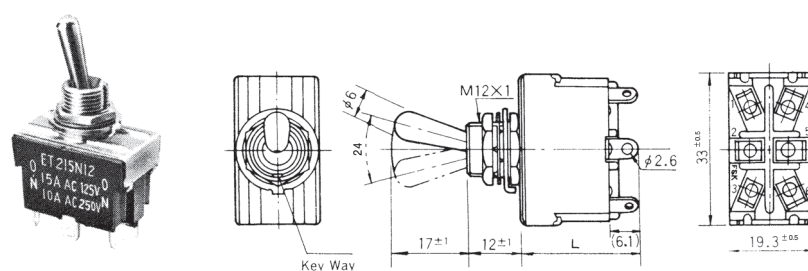
Part No.	Terminal style	TAB#250	Screw Terminal	Solder Terminal
ET210K ■-N■-Z		30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET210P ■-Z		30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET210PA12-Z		—	—	27.6 ^{±1}

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
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" 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	AC125 V 15 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	30,000 cycles
ET215N	AC250 V 10 A				20,000 cycles
ET215P	AC125 V 15 A				
ET215M	AC250 V 10 A				
ET215S	AC250 V 10 A				

L dimensions

Part No.	Terminal style	TAB#250	Screw Terminal	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}
ET215M-S ■-Z		—	28.4 ^{±1}	27.6 ^{±1}

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

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

ET220 (2 poles)

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

L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET220K12-N12-Z		—	—	27.6 ^{±1}

Part No.	Switching function	Key way	Key way	Key way
ET220K12-Z	ON	—	—	OFF
Connecting terminals	1-3 4-6	—	—	—
ET220N12-Z	ON	—	—	ON
Connecting terminals	2-3 5-6	—	—	2-1 5-4

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life	
ET220K12 ET220N12	AC125 V 20 A AC250 V 12 A (DC2 V 100 mA)	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles

ET225 (2 poles)

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

L dimensions

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

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" 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".

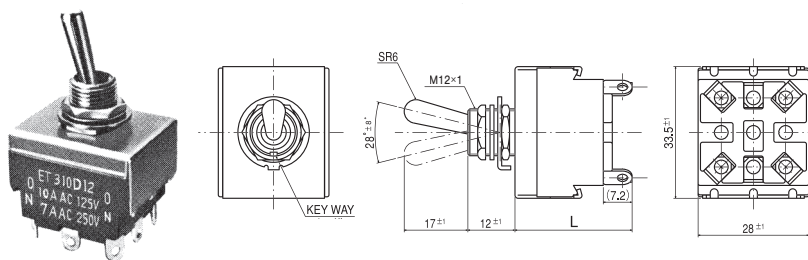
Part No.	Switching function	Key way	Key way	Key way
★ ET230N10-Z	ON	—	—	ON
★ ET230P10-Z	ON	OFF	—	ON
Connecting terminals	2-3 5-6	—	—	2-1 5-4

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET230N10 ET230P10	AC250 V 25 A AC125 V 30 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles

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.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET310A12	AC125 V 10 A	20 mΩ Max. (DC 2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles
ET310D12	AC250 V 7 A				
ET310E12					

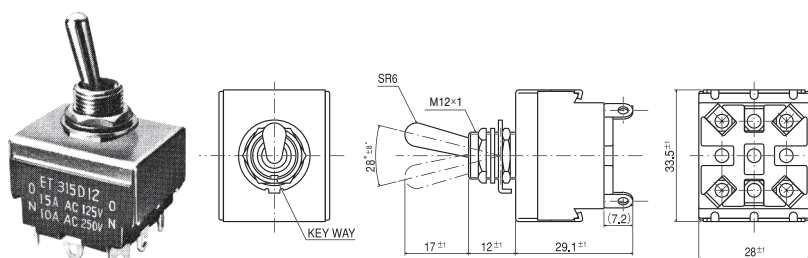
L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET310A12-Z ET310D12-Z ET310E12-Z		—	—	29.1±1

Part No.	Switching function	Key way	Key way	Key way
ET310A12-Z		ON	—	OFF
Connecting terminals		1-3 4-6 7-9	—	—
ET310D12-Z		ON	—	ON
ET310E12-Z		ON	OFF	ON
Connecting terminals		2-3 5-6 8-9	—	2-1 5-4 8-7

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.

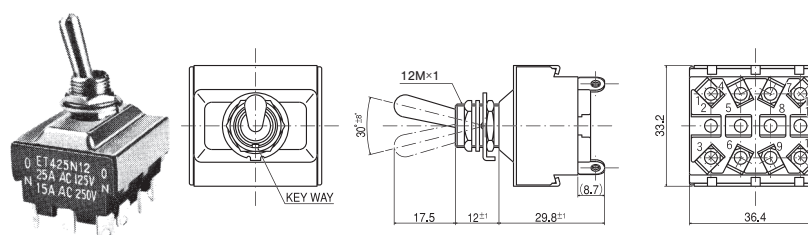
Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET315D12 ET315E12	AC125 V 15 A AC250 V 10 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles

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

ET425□12 (4 poles)

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

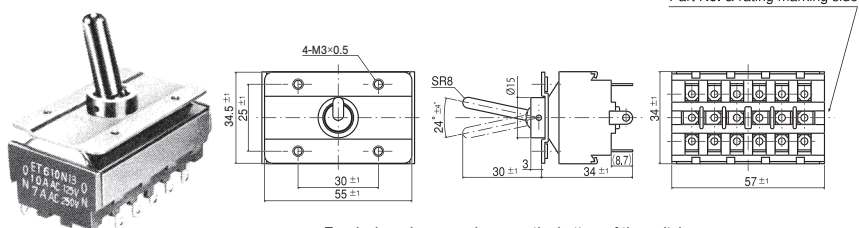


Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET425K12 ET425N12	AC125 V 25 A AC250 V 15 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles

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

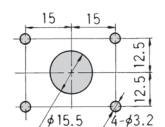
ET610N13 (6 poles)

Terminal numbers are shown on the bottom of the switch.

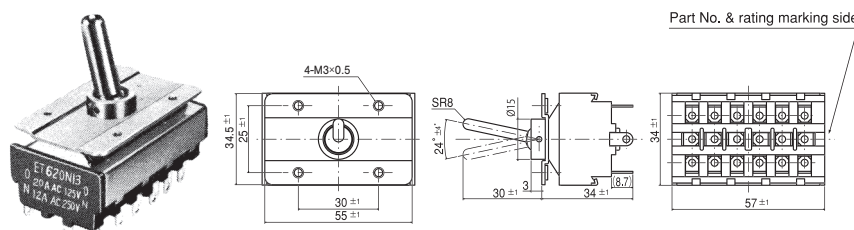
Switching function	Viewed from part No. and rating marking side		
Part No.			
☆ ET610N13-Z	ON	—	ON
Connecting terminals	2-3 5-6 8-9 11-12 14-15 17-18	—	2-1 5-4 8-7 11-10 14-13 17-16

Panel Cut-Out Dimensions

(Plate mounting type)

**Specifications**

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET610N13	AC125 V 10 A AC250 V 7 A	20 mΩ Max. (DC 2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	5,000 cycles

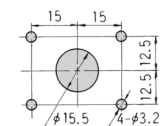
ET620N13 (6 poles)

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

(Plate mounting type)

**Specifications**

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET620N13	AC125 V 20 A AC250 V 12 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	5,000 cycles

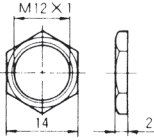
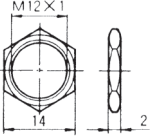
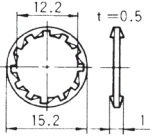
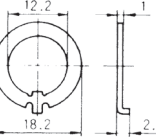
Table of Part Numbers

Terminal shape	Part No.	※1.	Part No.	※1.	Part No.	※1.	Part No.	※1.
TAB terminals	★ ET110F-Z		★ ET115D-Z		☆ ET215P-Z	39.7	ET225P-Z	
	ET115A-Z	29.4	★ ET215N-Z	40.0	☆ ET225K-Z	39.4	—	—
Screw terminals	☆ ET115A10-Z		★ ET215K10-Z		★ ET230N10-Z	54.4	—	—
	★ ET125A10-Z		☆ ET215N10-Z		★ ET230P10-Z		—	—
Solder terminals	☆ ET105A12-Z		★ ET115G12-Z		★ ET215M12-Z		☆ ET310D12-Z	54.6
	☆ ET105D12-Z	25.8	★ ET115H12-Z	25.0	☆ ET215N12-Z	38.1	☆ ET310E12-Z	
	☆ ET105E12-Z		☆ ET120A12-Z		★ ET215P12-Z	37.8	—	—
	☆ ET110A12-Z	25.8	☆ ET125A12-Z	25.9	ET215S12-Z	38.4	★ ET315D12-Z	54.7
	☆ ET110D12-Z		★ ET125D12-Z	26.0	★ ET220K12-Z		★ ET315E12-Z	
	★ ET110E12-Z		☆ ET210K12-Z		★ ET220N12-Z		★ ET425K12-Z	
	ET115A12-Z	25.9	☆ ET210N12-Z	38.0	☆ ET225K12-Z	38.1	★ ET425N12-Z	
	★ ET115C12-Z		☆ ET210P12-Z	37.9	ET225N12-Z	38.6	☆ ET610N13-Z	105.0
	ET115D12-Z	25.9	★ ET210PA12-Z		ET225P12-Z		★ ET620N13-Z	
	★ ET115E12-Z	25.9	☆ ET215K12-Z	37.9	★ ET310A12-Z	54.0	—	—

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

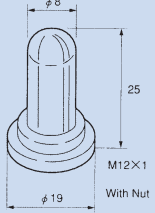
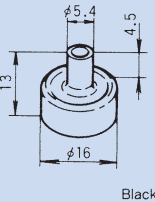
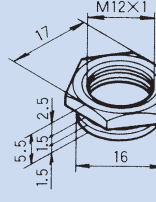
Standard Accessories

《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

Optional Accessories

《Supplied separately》

Part Name	Waterproof boot	Boot	Bushing
Part No.	Red 14000061033 Gray 140000610334 Black 140000610333	140000610080	140008010244
Dimensions			

Handling Precautions

1. Soldering Specifications

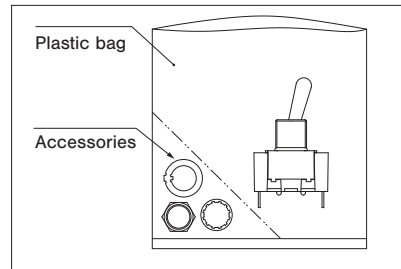
(1) Manual Soldering

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.

Packaging Specification



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.