



RoHS 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	1pole
2	2poles
3	3poles
4	4poles
6	6poles

Fig.	AC125V	AC250V
03	3A	—
05	5A	3A
06	6A	(2A)
10	10A	(7A)

Fig.	AC125V	AC250V
15	15A	10A
20	20A	12A
25	25A	15A
30	30A	(25A)


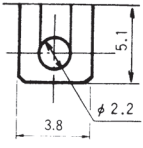

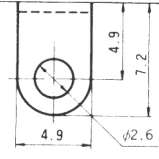
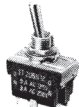

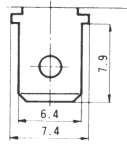

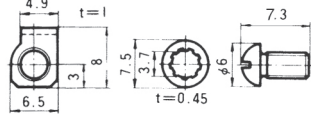

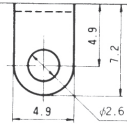



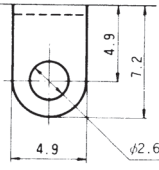

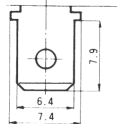

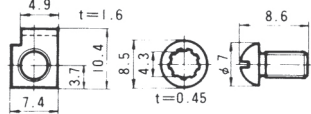

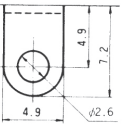
1pole 3pole	2pole 4pole 6pole	Key way	Key way	Key way
A	K	ON	—	OFF
C	M	OFF	—	(ON)
D·V	N	ON	—	ON
E	P	ON	OFF	ON
F	R	ON	—	(ON)
G	S	(ON)	OFF	(ON)
H	—	ON	OFF	(ON)
—	PA	ON	ON	OFF


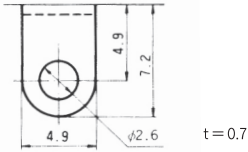

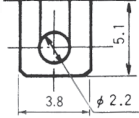


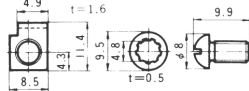

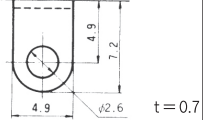



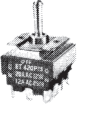
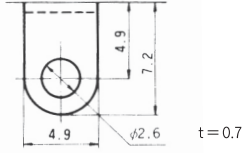
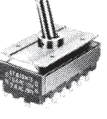
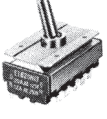
Fig.	Terminal style
None	TAB#250
10	Screw Terminal
12	Solder Terminal
13	Plate Connect SolderTerminal

### Terminal Style and Dimensions

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

# ET Series Selection Table

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style	Page
<b>ET103</b>		1	AC125V 3A	ON - OFF ON - ON	Solder Terminal  t = 0.25	<b>416</b>
<b>ET105</b>		1	AC125V 5A AC250V 3A	ON - OFF ON - ON ON - OFF - ON	Solder Terminal  t = 0.7	<b>416</b>
<b>ET205</b>		2		<b>418</b>		
<b>ET110</b>		1	AC125V 10A AC250V 7A	ON - OFF ON - ON ON - OFF - ON ON - (ON) ON - OFF - (ON)	TAB # 250  t = 0.8	<b>417</b>
<b>ET210</b>		2		AC125V 10A	ON - ON - OFF	Screw Terminal (M3.5×0.6)  t = 0.45
<b>ET115</b>		1	AC125V 15A AC250V 10A	ON - OFF OFF - (ON) ON - ON ON - OFF - ON ON - (ON) ON - OFF - (ON)	Solder Terminal  t = 0.7	<b>417</b>
<b>ET215</b>		2		<b>419</b>		
<b>ET315</b>		3		<b>421</b>		
<b>ET415</b>		4			Solder Terminal  t = 0.7	<b>421</b>
<b>ET120</b>		1	AC125V 20A AC250V 12A	ON - OFF ON - ON	TAB # 250  t = 0.8	<b>417</b>
<b>ET125</b>		1	AC125V 25A AC250V 15A	ON - OFF ON - ON ON - OFF - ON	Screw Terminal (M4.5×0.6)  t = 0.45	<b>418</b>
<b>ET225</b>		2				Solder Terminal  t = 0.8

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

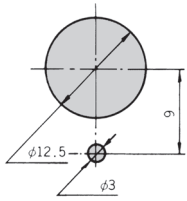
- Ratings are based on resistance load.
- Refer to P.425 for UL-recognized and CSA, PSE-certified products.

(ON) and (OFF) : Momentary.

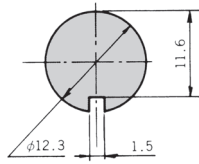
**Panel Cut-Out Dimensions**

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

Panel thickness : 5.5mm max.



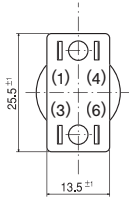
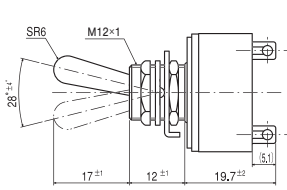
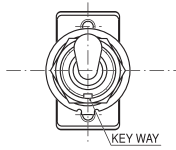
With Locking Ring



Without Locking Ring

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

**ET103□12 (1 pole)**



Terminal numbers are shown on the bottom of the switch.

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

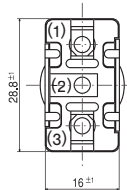
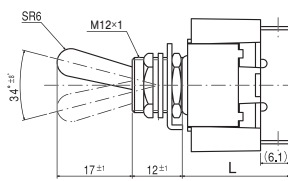
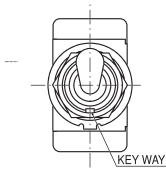
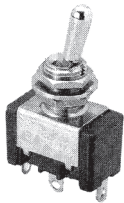
Terminal pins No.3 and No.6 are not available in switches with Switching Function "A".

**Specifications**

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

**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
<b>ET105A12-Z</b>		24.6±1
<b>ET105D12-Z</b>		24.6±1
<b>ET105E12-Z</b>		24.6±1

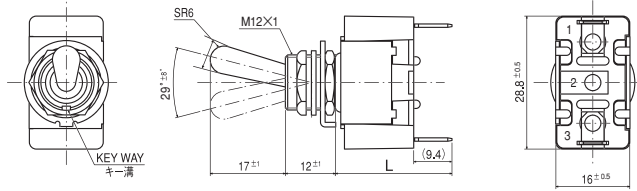
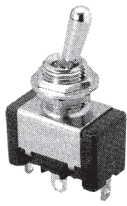
**Specifications**

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

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

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

**L dimensions**

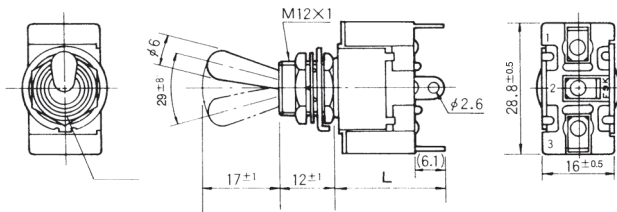
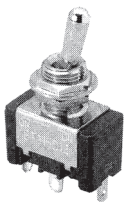
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET110A-D-Z		—	—	24.6 <sup>±1</sup>
ET110E-Z		—	—	24.6 <sup>±1</sup>
ET110F-Z		27.6 <sup>±1</sup>	—	24.6 <sup>±1</sup>
ET110H-Z		27.6 <sup>±1</sup>	25.4 <sup>±1</sup>	24.6 <sup>±1</sup>

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

**L dimensions**

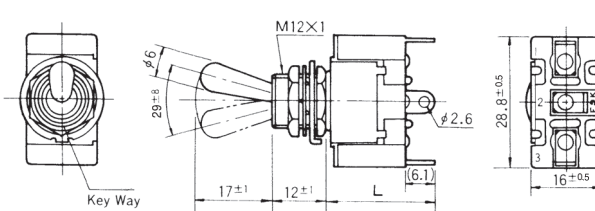
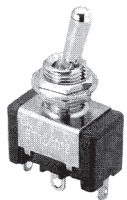
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET115A-D-Z		27.6 <sup>±1</sup>	25.4 <sup>±1</sup>	24.6 <sup>±1</sup>
ET115E-Z		27.6 <sup>±1</sup>	25.4 <sup>±1</sup>	24.6 <sup>±1</sup>
ET115C-F-H-Z		—	25.4 <sup>±1</sup>	24.6 <sup>±1</sup>

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" on P.425 for a full list of part numbers.

**ET120 (2 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	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	20,000 cycles
ET120D	AC250V 12A				

**L dimensions**

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET120A-D-Z		—	—	24.6 <sup>±1</sup>

Part No.	Switching function	Key way	Key way	Key way
ET120A-Z	ON		—	OFF
Connecting terminals		1-3	—	—
ET120D-Z	ON	—	—	ON
Connecting terminals		2-3	—	2-1

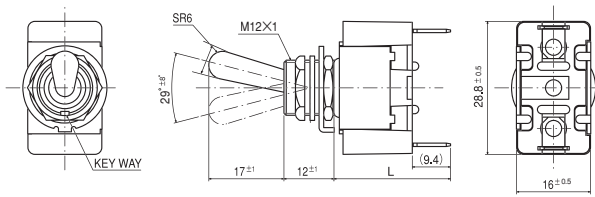
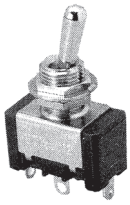
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

(ON) : Momentary.

■ shows the terminal style "A", "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	Screw Terminal	Solder Terminal
<b>ET125A-Z</b>		27.6±1	28.8±1	24.6±1
<b>ET125D-Z</b>				

Part No.	Switching function	Key way	Key way	Key way
<b>ET125A-Z</b>	ON	—	—	OFF
Connecting terminals	1-3	—	—	—
<b>ET125D-Z</b>	ON	—	—	ON
Connecting terminals	2-3	—	—	2-1

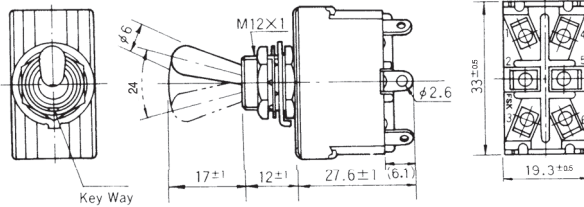
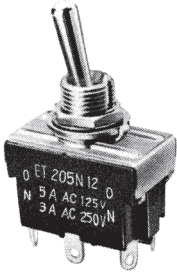
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

**Specifications**

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

**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.

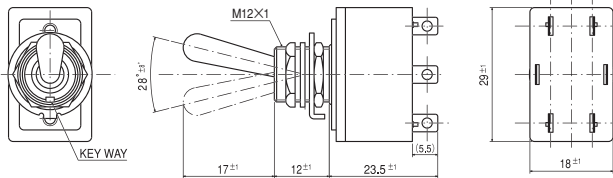
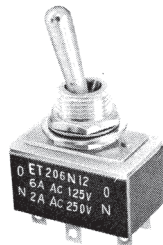
Part No.	Switching function	Key way	Key way	Key way
★ <b>ET205K12-Z</b>	ON	—	—	OFF
Connecting terminals	1-3 4-6	—	—	—
★ <b>ET205N12-Z</b>	ON	—	—	ON
★ <b>ET205P12-Z</b>	ON	OFF	—	ON
Connecting terminals	2-3 5-6	—	—	2-1 5-4

**Specifications**

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

**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.

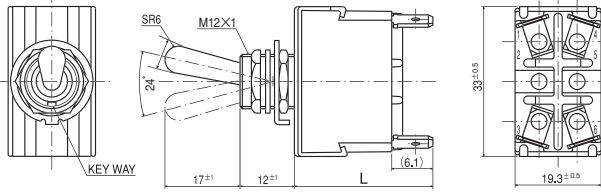
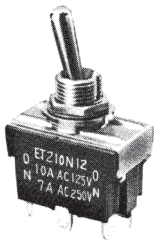
Part No.	Switching function	Key way	Key way	Key way
★ <b>ET206K12-Z</b>	ON	—	—	OFF
Connecting terminals	2-1 5-4	—	—	—
★ <b>ET206N12-Z</b>	ON	—	—	ON
Connecting terminals	2-1 5-4	—	—	2-3 5-6

**Specifications**

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

**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
<b>ET210K</b>	AC125V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	30,000 cycles
<b>ET210N</b>	AC250V 7A				
<b>ET210P</b>	AC250V 7A				
<b>ET210PA12</b>	AC125V 10A				20,000 cycles

**L dimensions**

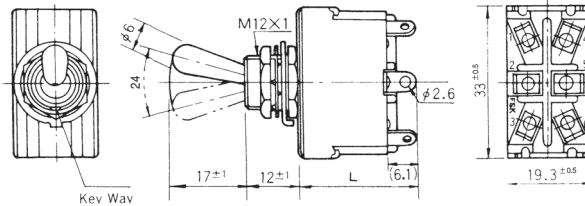
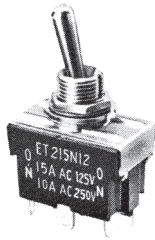
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
<b>ET210K</b> ■•N■-Z		30.6±1	28.4±1	27.6±1
<b>ET210P</b> ■-Z		30.6±1	28.4±1	27.6±1
<b>ET210PA12</b> -Z		-	-	27.6±1

Part No.	Switching function	Key way	Key way	Key way
<b>ET210K</b> ■-Z		ON	—	OFF
Connecting terminals		1-3 4-6	—	—
<b>ET210N</b> ■-Z		ON	—	ON
<b>ET210P</b> ■-Z		ON	OFF	ON
Connecting terminals		2-3 5-6	—	2-1 5-4
★ <b>ET210PA12</b> -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
<b>ET215K</b>	AC125V 15A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	30,000 cycles
<b>ET215N</b>	AC250V 10A				
<b>ET215P</b>	AC250V 10A				
<b>ET215M</b>	AC125V 15A				20,000 cycles
<b>ET215R</b>	AC250V 10A				
<b>ET215S</b>	AC250V 10A				

**L dimensions**

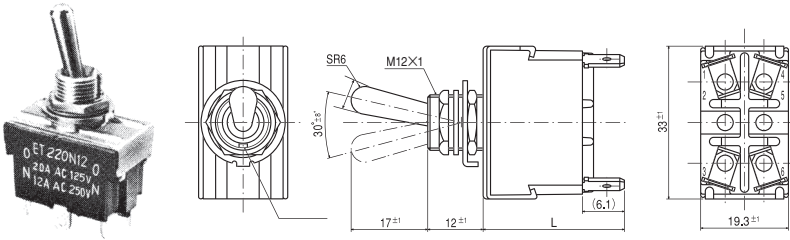
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
<b>ET215K</b> ■•N■-Z		30.6±1	28.4±1	27.6±1
<b>ET215P</b> ■-Z		30.6±1	28.4±1	27.6±1
<b>ET215M-R-S</b> ■-Z		-	28.4±1	27.6±1

Part No.	Switching function	Key way	Key way	Key way
<b>ET215K</b> ■-Z		ON	—	OFF
Connecting terminals		1-3 4-6	—	—
<b>ET215M</b> ■-Z		OFF	—	(ON)
Connecting terminals		—	—	1-3 4-6
<b>ET215N</b> ■-Z		ON	—	ON
<b>ET215P</b> ■-Z		ON	OFF	ON
<b>ET215R</b> ■-Z		ON	—	(ON)
<b>ET215S</b> ■-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.

**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
<b>ET220K</b>	AC125V 20A	20mΩMax. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	20,000 cycles
<b>ET220N</b>	AC250V 12A				
<b>ET220S</b>	AC125V 20A AC250V 12A				

**L dimensions**

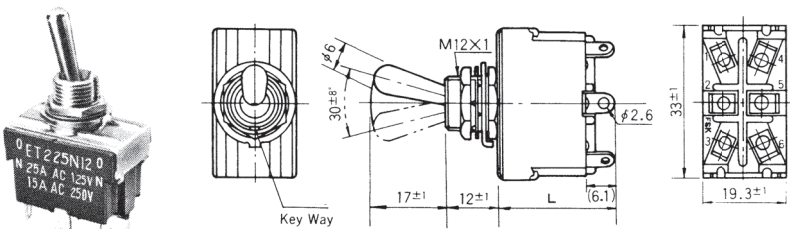
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
	<b>ET220K</b> • <b>N</b> • <b>Z</b>		—	—
<b>ET220S</b> • <b>Z</b>		30.6±1	31.8±1	27.6±1

Part No.	Switching function	Key way	Key way	Key way
	<b>ET220K</b> • <b>Z</b>		ON	—
Connecting terminals		1-3 4-6	—	—
<b>ET220N</b> • <b>Z</b>		ON	—	ON
<b>ET220S</b> • <b>Z</b>		(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
<b>ET225K</b>	AC125V 25A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	20,000 cycles
<b>ET225N</b>	AC250V 15A				
<b>ET225P</b>					

**L dimensions**

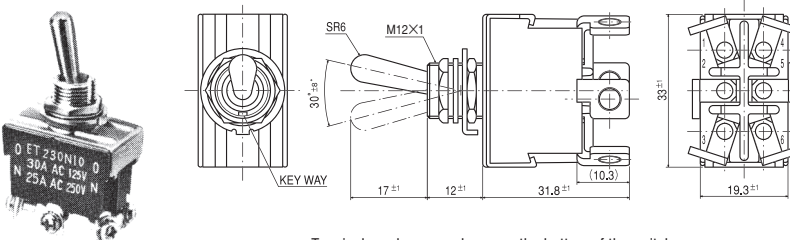
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
	<b>ET225K</b> • <b>N</b> • <b>Z</b> <b>ET225P</b> • <b>Z</b>		30.6±1	31.8±1

Part No.	Switching function	Key way	Key way	Key way
	<b>ET225K</b> • <b>Z</b>		ON	—
Connecting terminals		1-3 4-6	—	—
<b>ET225N</b> • <b>Z</b>		ON	—	ON
<b>ET225P</b> • <b>Z</b>		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
<b>ET230N10</b>	AC250V 25A	20mΩMax. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	20,000 cycles
<b>ET230P10</b>	AC125V 30A				

Part No.	Switching function	Key way	Key way	Key way
	★ <b>ET230N</b> • <b>Z</b>		ON	—
★ <b>ET230P</b> • <b>Z</b>		ON	OFF	ON
Connecting terminals		2-3 5-6	—	2-1 5-4

(ON) : Momentary.

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

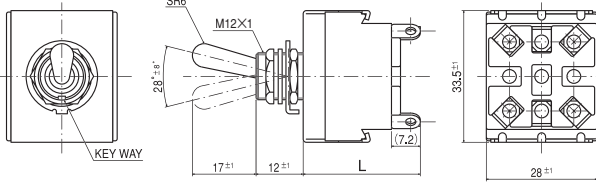
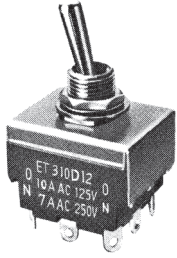
★ : Made to order products.



**ET310 (3 poles)**

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

**寸法/L dimensions**



Terminal numbers are shown on the bottom of the switch.

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
<b>ET310A-Z</b>		34 <sup>±2</sup>		
<b>ET310D-Z</b>			—	29.1 <sup>±1</sup>
<b>ET310E-Z</b>		36.4 <sup>±1</sup>		

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

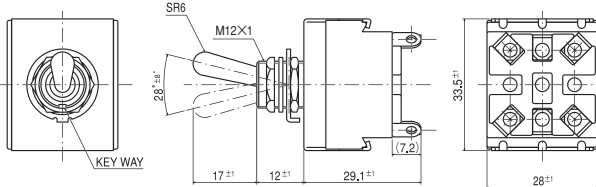
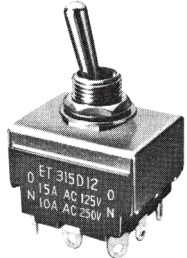
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

**Specifications**

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

**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
★ <b>ET315D12-Z</b>		ON	—	ON
★ <b>ET315E12-Z</b>		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	
<b>ET315D12</b>	AC125V 15A	20mΩ Max. (DC2V 100mA)	AC1500V	100MΩ Min. (DC500V)	20,000 cycles
<b>ET315E12</b>	AC250V 10A				

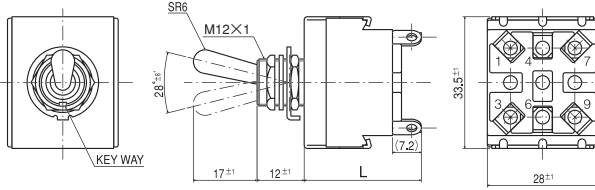
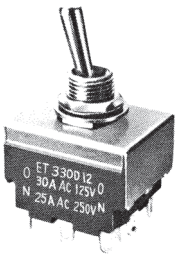
★ : Made to order products.

(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.

**Specifications**

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

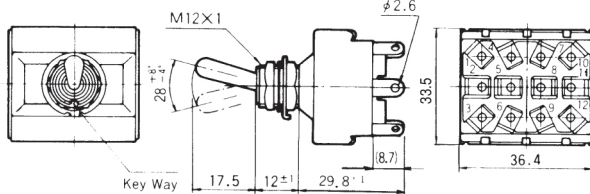
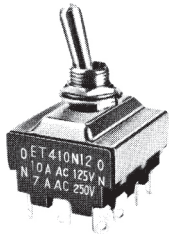
**L dimensions**

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
<b>ET330A</b> ■-Z		33.9±2		
<b>ET330D12-Z</b>		-	-	29.1±1
<b>ET330E12-Z</b>				

Part No.	Switching function	Key way	Key way	Key way
<b>ET330A</b> ■-Z		ON	—	OFF
	Connecting terminals	1-3 4-6 7-9	—	—
☆ <b>ET330D12-Z</b>		ON	—	ON
★ <b>ET330E12-Z</b>		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.

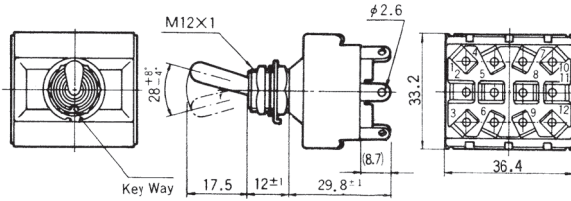
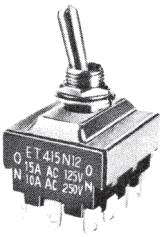
**Specifications**

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
<b>ET410N12</b>	AC125V 10A AC250V 7A	20mΩ Max.	AC1500V	100MΩ Min.	20,000 cycles
		(DC2V 100mA)	1minute	(DC500V)	

Part No.	Switching function	Key way	Key way	Key way
★ <b>ET410N12-Z</b>		ON	—	ON
	Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

**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.

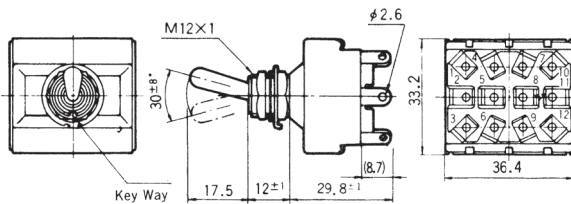
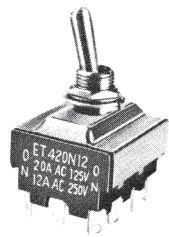
Switching function	Key way	Key way	Key way
Part No.			
★ET415P12-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	-1 5-4 8-7 11-10

**Specifications**

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

**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.

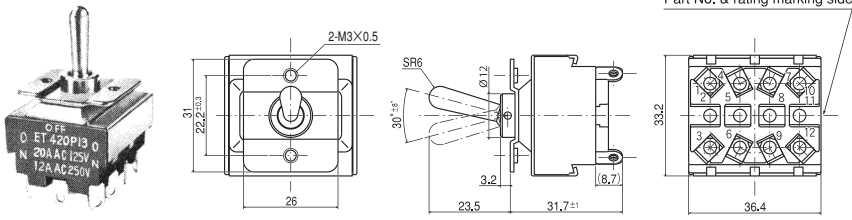
Switching function	Key way	Key way	Key way
Part No.			
★ET420N12-Z	ON	—	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	2-1 5-4 8-7 11-10

**Specifications**

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

**ET420□13 (4 poles)**

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

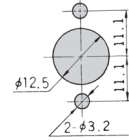


Terminal numbers are shown on the bottom of the switch.

Part No.	Switching function		
	Viewed from part No. and rating marking side		
★ET420N13-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)

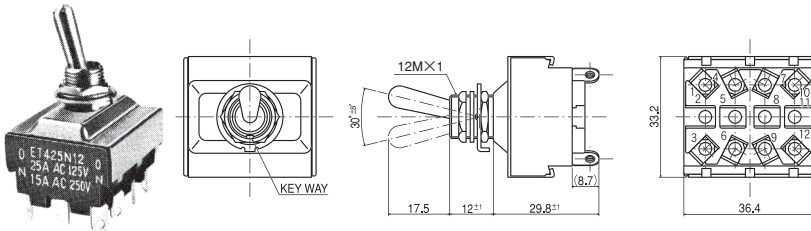


**Specifications**

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

**ET425□12 (4 poles)**

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



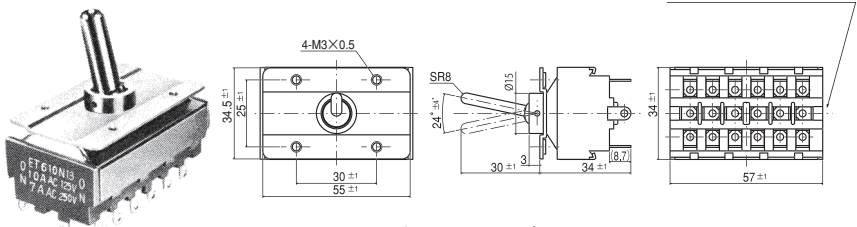
Terminal numbers are shown on the bottom of the switch.

Part No.	Switching function		
	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

**Specifications**

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

**ET610N13 (6 poles)**

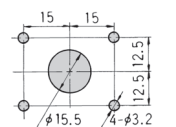


Terminal numbers are shown on the bottom of the switch.

Part No.	Switching function		
	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**

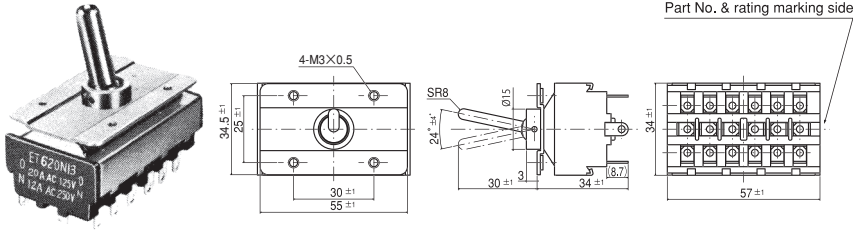
(Plate mounting type)



**Specifications**

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

**ET620N13 (6 poles)**



Terminal numbers are shown on the bottom of the switch.

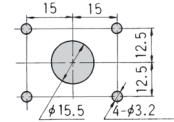
Switching function	Viewed from part No. and rating marking side		
Part No.	★ET620N13-Z	—	ON
Connecting terminals	2-3 5-6 8-9 11-12 14-15 17-18	—	2-1 5-4 8-7 11-10 14-13 17-16

**Panel Cut-Out Dimensions**

**Specifications**

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

(Plate mounting type)



**Table of Part Numbers**

	Part No.	※1.	Part No.	※1.	Part No.	※1.	Part No.	※1.
TAB terminals	★ ET110F-Z		★  ET115D-Z		★  ET215N-Z	40.0	★ ET225P-Z	
	★ ET110H-Z		★ ET125A-Z	26.6	☆  ET215P-Z	39.7	★ ET330A-Z	
	ET115A-Z	29.4	★  ET215K-Z	39.3	☆ ET225K-Z	39.4		
Screw terminals	☆  ET115A10-Z		★  ET125A10-Z		☆  ET215N10-Z		★ ET230N10-Z	54.4
	★  ET115D10-Z		★  ET215K10-Z		★  ET215P10-Z		★ ET230P10-Z	
Solder terminals	ET103A12-Z	21.0	☆  ET120A12-Z		★ ET215M12-Z		★  ET315D12-Z	54.7
	★ ET103V12-Z	21.0	★  ET120D12-Z		☆  ET215N12-Z	38.1	★  ET315E12-Z	
	☆ ET105A12-Z		☆ ET125A12-Z	25.9	★  ET215P12-Z	37.8	★ ET330A12-Z	
	☆ ET105D12-Z	25.8	★ ET125D12-Z	26.0	★ ET215R12-Z		☆ ET330D12-Z	54.2
	☆ ET105E12-Z		★ ET205K12-Z		ET215S12-Z	38.4	★ ET330E12-Z	
	☆ ET110A12-Z	25.8	★ ET205N12-Z		★  ET220K12-Z		★ ET410N12-Z	57.4
	☆ ET110D12-Z		★ ET205P12-Z		★  ET220N12-Z		★  ET415P12-Z	
	★ ET110E12-Z		ET206K12-Z	26.1	★ ET220S12-Z		★ ET420N12-Z	
	ET115A12-Z	25.9	☆  ET206N12-Z	26.3	☆ ET225K12-Z	38.1	★ ET420N13-Z	
	★ ET115C12-Z		☆ ET210K12-Z		ET225N12-Z	38.6	★ ET425K12-Z	
	ET115D12-Z	25.9	☆ ET210N12-Z	38.0	ET225P12-Z		★ ET425N12-Z	
	★  ET115E12-Z	25.9	☆ ET210P12-Z	37.9	★ ET310A12-Z	54.0	☆ ET610N13-Z	105.0
	★ ET115G12-Z		★ ET210PA12-Z		☆ ET310D12-Z	54.6	★ ET620N13-Z	
	★ ET115H12-Z	25.0	☆  ET215K12-Z	37.9	☆ ET310E12-Z		—	—

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

■ **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》

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					

■ **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**

