



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)


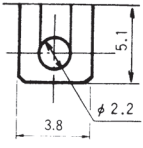

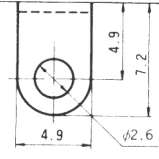
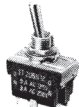

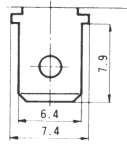

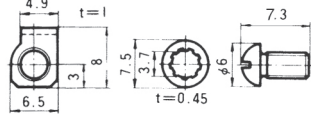

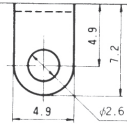



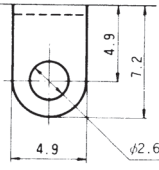

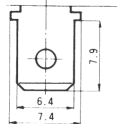

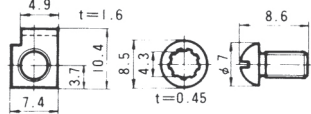

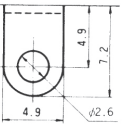
1pole 3pole	2pole 4pole 6pole	Key way	Key way	Key way
A	K	ON	—	OFF
C	M	OFF	—	(ON)
D·V	N	ON	—	ON
E	P	ON	OFF	ON
F	R	ON	—	(ON)
G	S	(ON)	OFF	(ON)
H	—	ON	OFF	(ON)
—	PA	ON	ON	OFF


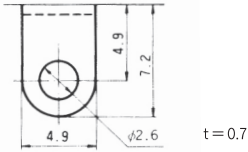

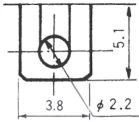


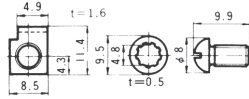

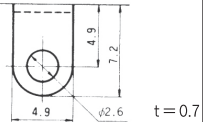
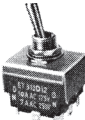


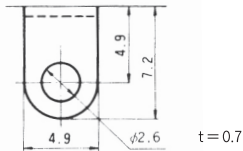
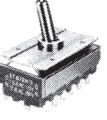
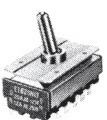
Fig.	Terminal style
None	TAB#250
10	Screw Terminal
12	Solder Terminal
13	Plate Connect SolderTerminal

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
ET103		1	AC125V 3A	ON - OFF ON - ON	Solder Terminal  t = 0.25	416
ET105		1	AC125V 5A AC250V 3A	ON - OFF ON - ON ON - OFF - ON	Solder Terminal  t = 0.7	416
ET205		2		418		
ET110		1	AC125V 10A AC250V 7A	ON - OFF ON - ON ON - OFF - ON ON - (ON) ON - OFF - (ON)	TAB # 250  t = 0.8	417
ET210		2		AC125V 10A	ON - ON - OFF	Screw Terminal (M3.5×0.6) 
ET115		1	AC125V 15A AC250V 10A	ON - OFF OFF - (ON) ON - ON ON - OFF - ON (ON) - OFF - (ON) ON - OFF - (ON)	Solder Terminal  t = 0.7	417
ET215		2				419
ET315		3				421
ET415		4			Solder Terminal  t = 0.7	421
ET120		1	AC125V 20A AC250V 12A	ON - OFF ON - ON	TAB # 250  t = 0.8	417
ET125		1	AC125V 25A AC250V 15A	ON - OFF ON - ON ON - OFF - ON	Screw Terminal (M4.5×0.6) 	418
ET225		2			Solder Terminal  t = 0.8	420

Part No.	Appearance	No. of poles	Rating	Switching function	Terminal style	Page
ET425		4	AC125V 25A AC250V 15A	ON - OFF ON - ON	Solder Terminal 	424
ET206		2	AC125V 6A AC250V 2A	ON - OFF ON - ON	Solder Terminal 	418
ET220		2	AC125V 20A AC250V 12A	ON - OFF ON - ON (ON) - OFF - (ON)	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	Solder Terminal	421
ET410		4			Solder Terminal	422
ET420		4			AC125V 20A AC250V 12A	ON - ON
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

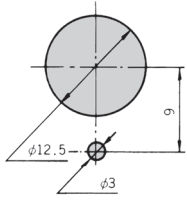
- Ratings are based on resistance load.
- Refer to P.425 for UL-recognized and CSA, PSE-certified products.

(ON) and (OFF) : Momentary.

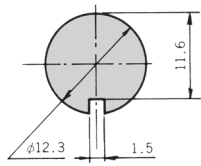
Panel Cut-Out Dimensions

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

Panel thickness : 5.5mm max.



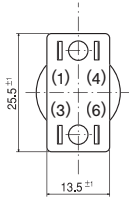
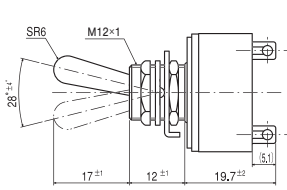
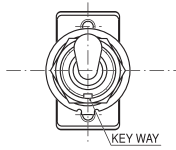
With Locking Ring



Without Locking Ring

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

ET103□12 (1 pole)



Terminal numbers are shown on the bottom of the switch.

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

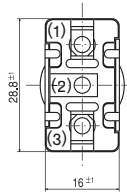
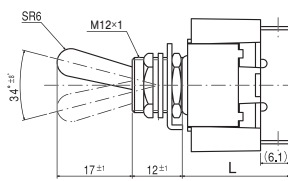
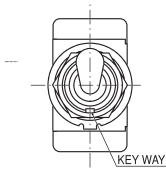
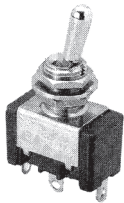
Terminal pins No.3 and No.6 are not available in switches with Switching Function "A".

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life	
ET103A12 ET103V12	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
ET105A12-Z		24.6±1
ET105D12-Z		24.6±1
ET105E12-Z		24.6±1

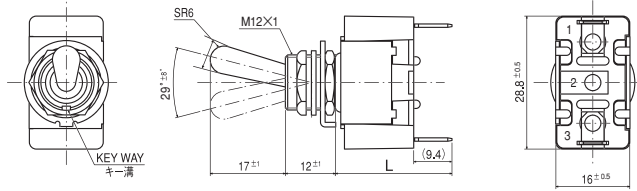
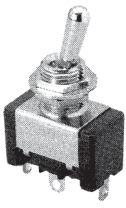
Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life	
ET105A12 ET105D12 ET105E12	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.			
☆ ET105A12-Z	ON	—	OFF
Connecting terminals	1-3	—	—
☆ ET105D12-Z	ON	—	ON
☆ ET105E12-Z	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 ET110D ET110E	AC125V 10A AC250V 7A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	30,000 cycles
ET110F ET110H	AC125V 10A AC250V 7A				20,000 cycles

L dimensions

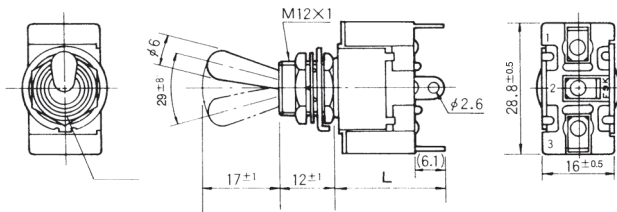
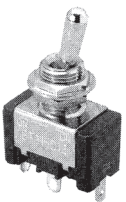
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET110A • D • Z		—	—	24.6 ^{±1}
ET110E • Z		—	—	24.6 ^{±1}
ET110F • Z		27.6 ^{±1}	—	24.6 ^{±1}
ET110H • Z		27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}

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)
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 " ".



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 1minute	100MΩ Min. (DC500V)	30,000 cycles
ET115C ET115G ET115H	AC125V 15A AC250V 10A				20,000 cycles

L dimensions

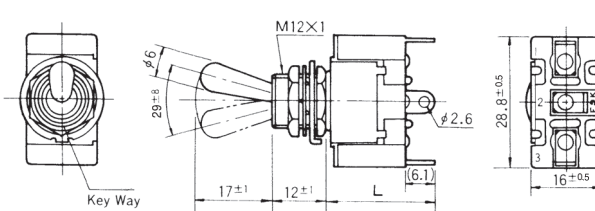
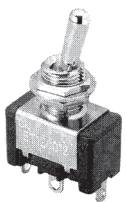
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET115A • D • Z		27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}
ET115E • Z		27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}
ET115C • F • H • Z		—	25.4 ^{±1}	24.6 ^{±1}

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" 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 ET120D	AC125V 20A AC250V 12A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	20,000 cycles

L dimensions

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

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

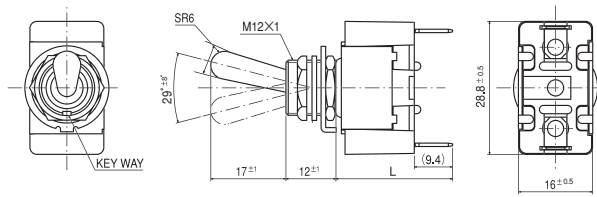
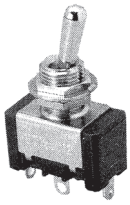
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

(ON) : Momentary.

■ shows the terminal style "(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	Screw Terminal	Solder Terminal
ET125A-Z		27.6±1	28.8±1	24.6±1
ET125D-Z				

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

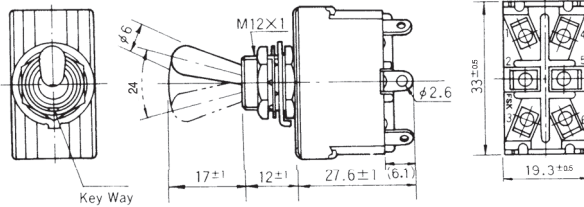
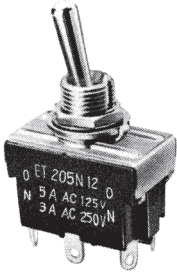
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

Specifications

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

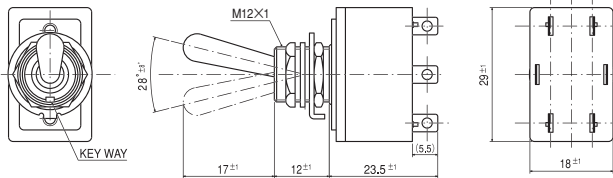
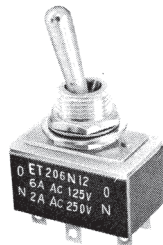
Part No.	Switching function	Key way	Key way	Key way
★ ET205K12-Z	ON	—	—	OFF
Connecting terminals	1-3 4-6	—	—	—
★ ET205N12-Z	ON	—	—	ON
★ ET205P12-Z	ON	OFF	—	ON
Connecting terminals	2-3 5-6	—	—	2-1 5-4

Specifications

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

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.

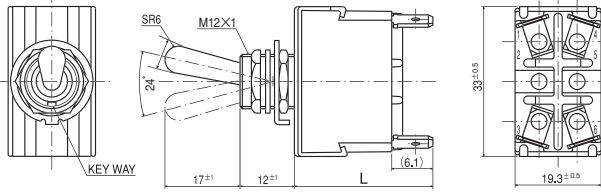
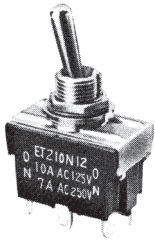
Part No.	Switching function	Key way	Key way	Key way
★ ET206K12-Z	ON	—	—	OFF
Connecting terminals	2-1 5-4	—	—	—
★ ET206N12-Z	ON	—	—	ON
Connecting terminals	2-1 5-4	—	—	2-3 5-6

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life	
ET206K12	AC125V 6A	20mΩ Max. (DC2V 100mA)	AC1500V	100MΩ Min. (DC500V)	10,000 cycles
ET206N12	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
ET210K	AC125V 10A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	30,000 cycles
ET210N	AC250V 7A				
ET210P	AC250V 7A				
ET210PA12	AC125V 10A				20,000 cycles

L dimensions

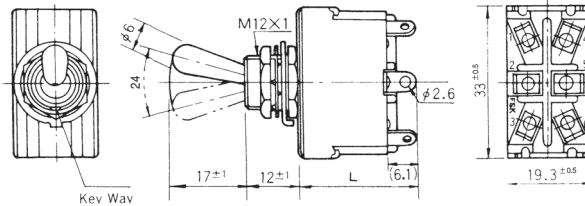
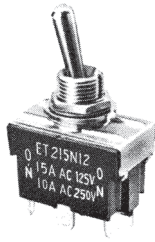
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET210K ■•N■-Z		30.6±1	28.4±1	27.6±1
ET210P ■-Z		30.6±1	28.4±1	27.6±1
ET210PA12 ■-Z		-	-	27.6±1

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

ET215 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

Specifications

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

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
ET215M-R-S ■-Z		-	28.4±1	27.6±1

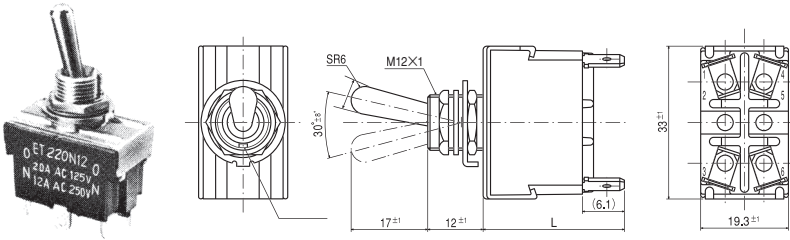
Part No.	Switching function	Key way	Key way	Key way
ET215K ■-Z		ON	—	OFF
Connecting terminals		1-3 4-6	—	—
ET215M ■-Z		OFF	—	(ON)
Connecting terminals		—	—	1-3 4-6
ET215N ■-Z		ON	—	ON
ET215P ■-Z		ON	OFF	ON
ET215R ■-Z		ON	—	(ON)
ET215S ■-Z		(ON)	OFF	(ON)
Connecting terminals		2-3 5-6	—	2-1 5-4

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

ET

ET220 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

Specifications

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

L dimensions

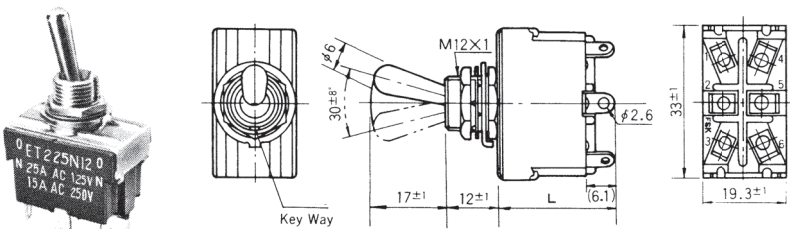
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
	ET220K	■	—	—
ET220S-Z		30.6±1	31.8±1	27.6±1

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

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

ET225 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

Specifications

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

L dimensions

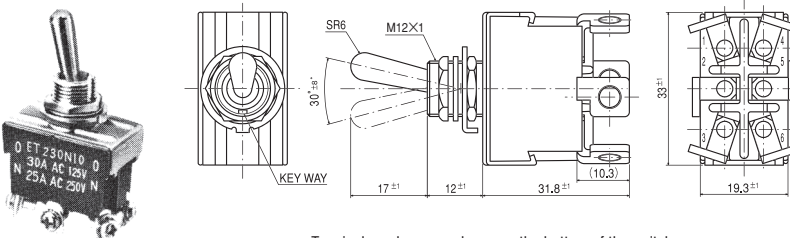
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
	ET225K	■	—	—
ET225P-Z		30.6±1	31.8±1	27.6±1

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

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

ET230 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

Specifications

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

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

(ON) : Momentary.

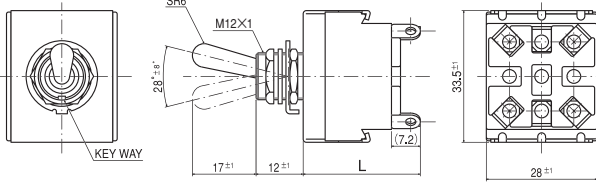
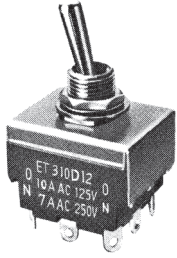
■ shows the terminal style " (blank)", "10", or "12".

★ : 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".

L寸法/L dimensions



Terminal numbers are shown on the bottom of the switch.

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

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

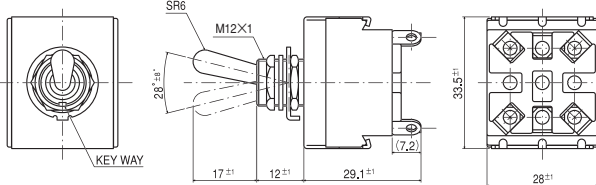
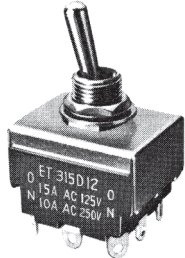
■ : Refer to "Table of Part Numbers" on P.425 for a full list of part numbers.

Specifications

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

ET315□12 (3 poles)

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



Terminal numbers are shown on the bottom of the switch.

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

Specifications

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

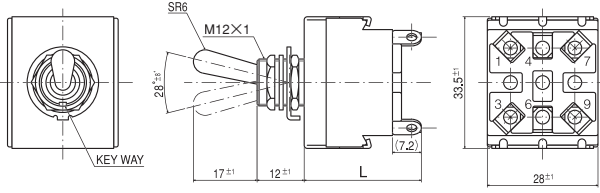
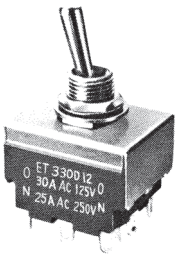
★ : Made to order products.

(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
ET330A	AC125V 30A	20mΩ Max.	AC1500V	100MΩ Min.	20,000 cycles
ET330D12	AC250V 25A	(DC2V 100mA)	1minute	(DC500V)	
ET330E12					

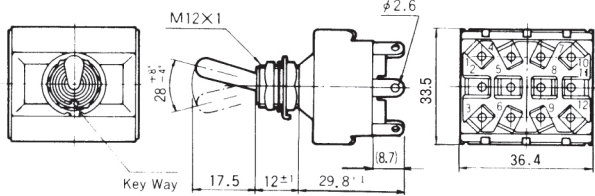
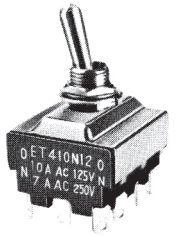
L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET330A ■-Z		33.9 ^{±2}		
ET330D12-Z		-	-	29.1 ^{±1}
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.

ET410□12 (4 poles)



Terminal numbers are shown on the bottom of the switch.

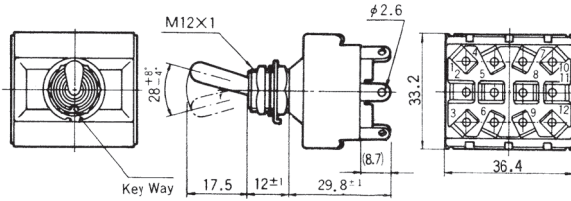
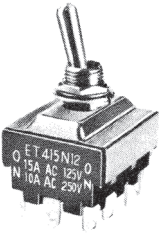
Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET410N12	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
★ ET410N12-Z		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.

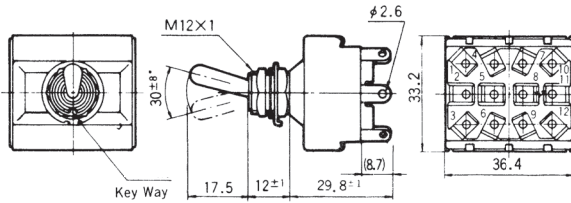
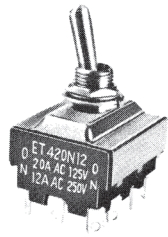
Switching function	Key way	Key way	Key way
Part No.			
★ET415P12-Z	ON	OFF	ON
Connecting terminals	2-3 5-6 8-9 11-12	—	-1 5-4 8-7 11-10

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

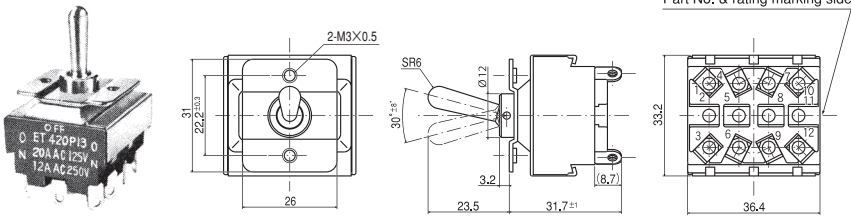
Specifications

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

★ : Made to order 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".

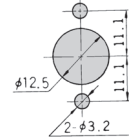


Terminal numbers are shown on the bottom of the switch.

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)

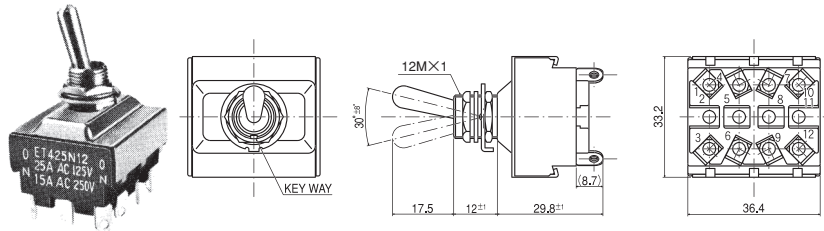


Specifications

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".



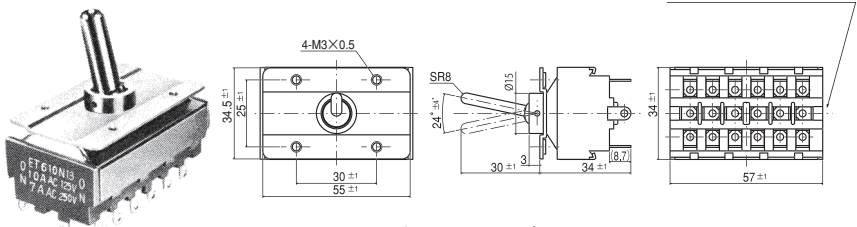
Terminal numbers are shown on the bottom of the switch.

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	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	20,000 cycles

ET610N13 (6 poles)

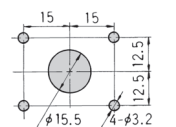


Terminal numbers are shown on the bottom of the switch.

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

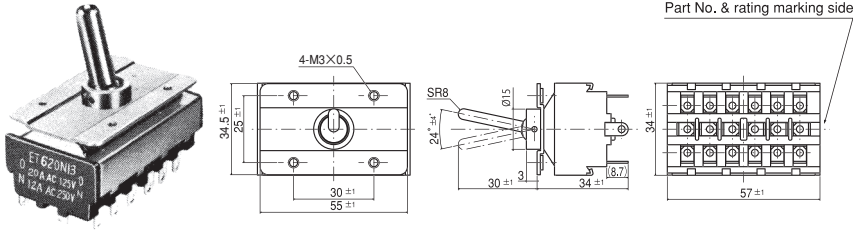
(Plate mounting type)



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
ET620N13 AC125V 20A AC250V 12A	20mΩ Max. (DC2V 100mA)	AC1500V 1minute	100MΩ Min. (DC500V)	5,000 cycles

(Plate mounting type)

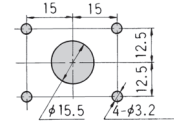


Table of Part Numbers

	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.

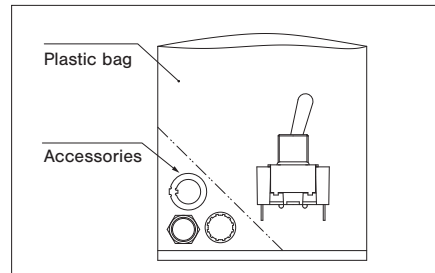
(2) Waterproof boot

- 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**



Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Nidec:

[ET610N13-Z](#) [ET220N12-Z](#) [ET115C12-Z](#) [ET230N10-Z](#) [ET620N13-Z](#) [ET230P10-Z](#) [ET215M12-Z](#) [140000610333](#)
[ET103A12-Z](#) [ET103V12-Z](#) [ET105A12-Z](#) [ET105D12-Z](#) [ET105E12-Z](#) [ET425K12-Z](#) [ET425N12-Z](#) [ET330D12-Z](#)
[ET330E12-Z](#) [ET410N12-Z](#) [ET415P12-Z](#) [ET420N12-Z](#) [ET420N13-Z](#) [ET310D12-Z](#) [ET310E12-Z](#) [ET315D12-Z](#)
[ET315E12-Z](#) [ET330A12-Z](#) [ET330A-Z](#) [ET225K12-Z](#) [ET225K-Z](#) [ET225N12-Z](#) [ET225P12-Z](#) [ET225P-Z](#) [ET310A12-Z](#)
[ET215P12-Z](#) [ET215P-Z](#) [ET215R12-Z](#) [ET215S12-Z](#) [ET220K12-Z](#) [ET220S12-Z](#) [ET215K12-Z](#) [ET215K-Z](#) [ET215N10-](#)
[Z](#) [ET215N12-Z](#) [ET215N-Z](#) [ET215P10-Z](#) [ET206N12-Z](#) [ET210K12-Z](#) [ET210N12-Z](#) [ET210P12-Z](#) [ET210PA12-Z](#)
[ET215K10-Z](#) [ET125A-Z](#) [ET125D12-Z](#) [ET205K12-Z](#) [ET205N12-Z](#) [ET205P12-Z](#) [ET206K12-Z](#) [ET115G12-Z](#)
[ET115H12-Z](#) [ET120A12-Z](#) [ET120D12-Z](#) [ET125A10-Z](#) [ET125A12-Z](#) [ET115A12-Z](#) [ET115A-Z](#) [ET115D10-Z](#)
[ET115D12-Z](#) [ET115D-Z](#) [ET115E12-Z](#) [ET110A12-Z](#) [ET110D12-Z](#) [ET110E12-Z](#) [ET110F-Z](#) [ET110H-Z](#) [ET115A10-Z](#)