



**THE DATASHEET OF
ET115D12-Z**



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	
	AC125V	AC250V	AC125V	AC250V
05	5A	3A	20	12A
10	10A	(7A)	25	15A
15	15A	10A	30	(25A)

1pole 3poles	2poles 4poles 6poles	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


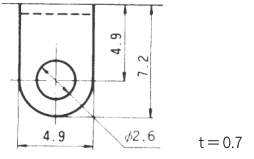

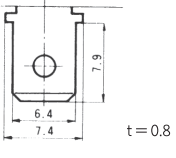

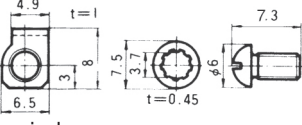

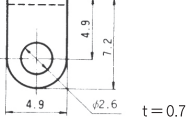

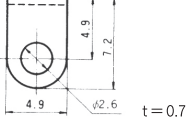

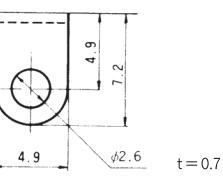

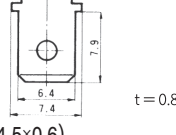

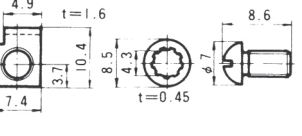

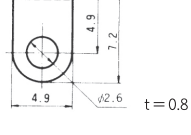
Fig.	Terminal style
None	TAB#250
10	Screw Terminal
12	Solder Terminal
13	Plate Connect Solder Terminal

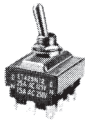
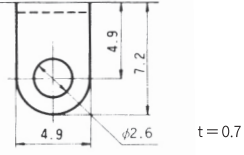


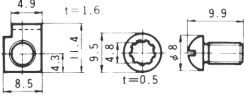

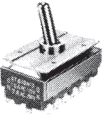
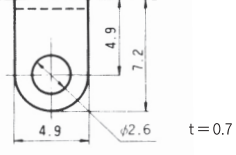
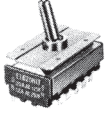
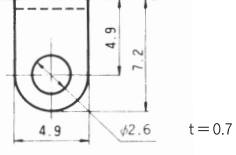
Terminal shape and dimensions

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 
ET110		1	AC125 V 10 A AC250 V 7 A	ON - OFF ON - ON ON - OFF - ON ON - (ON)	TAB # 250 
ET210		2	AC125 V 10 A	ON - ON - OFF	Screw Terminal (M3.5×0.6) 
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 
ET215		2			Solder Terminal 
ET315		3			Solder Terminal 
ET120		1	AC125 V 20 A AC250 V 12 A	ON - OFF	TAB # 250 
ET125		1	AC125 V 25 A AC250 V 15 A	ON - OFF ON - ON ON - OFF - ON	Screw Terminal (M4.5×0.6) 
ET225		2			Solder Terminal 

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 
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	Solder Terminal 

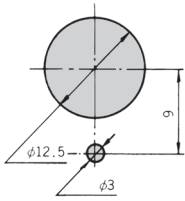
● Ratings are based on resistance load.

Panel Cut-Out Dimensions

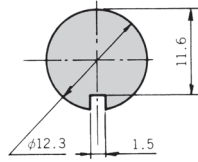
Panel thickness : 5.5mm max.

● Refer to for a list of accessories.

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



With Locking Ring

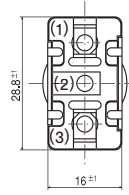
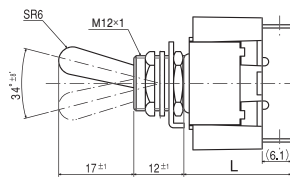
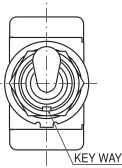
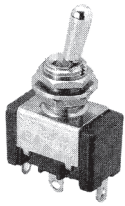


Without Locking Ring

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	
ET105D12-Z		24.6 ^{±1}
ET105E12-Z		24.6 ^{±1}

Specifications

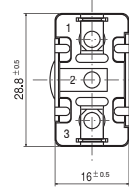
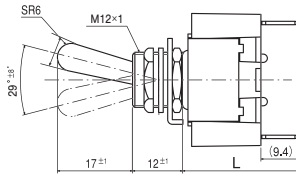
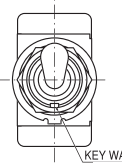
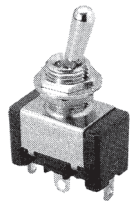
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET105A12	AC125 V 5 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500V)	20,000回 cycles
ET105D12	AC250 V 3 A				
ET105E12					

Part No.	Switching function	Key way	Key way	Key way
	☆ ET105A12-Z	ON	—	—
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".

L dimensions



Terminal numbers are shown on the bottom of the switch.

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

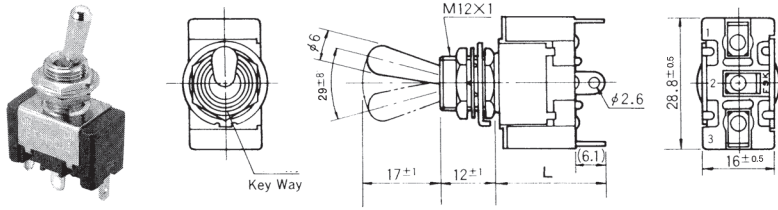
Part No.	Terminal style	TAB# 250	ScrewTerminal	Solder Terminal
	ET110A ■•D■-Z		—	—
ET110E ■-Z		—	—	24.6 ^{±1}
ET110F ■-Z		27.6 ^{±1}	—	24.6 ^{±1}

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

■ : 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".



Terminal numbers are shown on the bottom of the switch.

Specifications

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

L dimensions

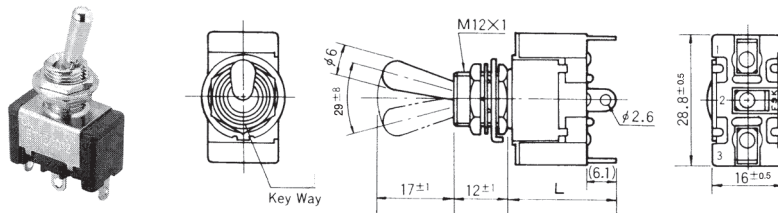
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET115A ■ D ■ Z		27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}
ET115E ■ Z		27.6 ^{±1}	25.4 ^{±1}	24.6 ^{±1}
ET115C ■ F ■ H ■ Z		—	25.4 ^{±1}	24.6 ^{±1}

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.

ET120 (1 pole)

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



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET120A ■	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

L dimensions

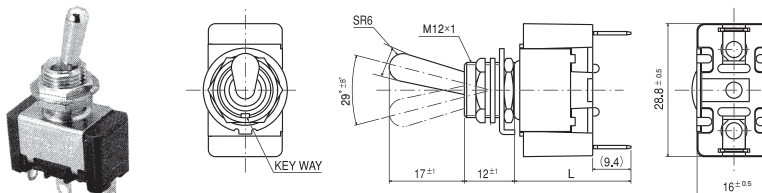
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET120A ■ Z		—	—	24.6 ^{±1}

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.

ET125 (1 pole)

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



Terminal numbers are shown on the bottom of the switch.

Specifications

Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
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

L dimensions

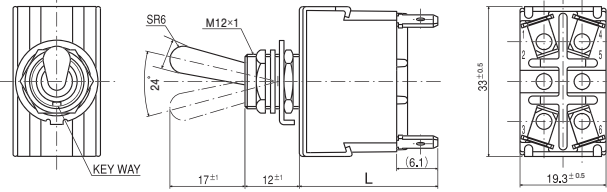
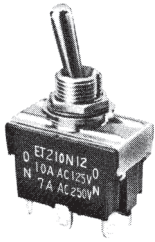
Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET125D ■ Z		27.6 ^{±1}	28.8 ^{±1}	24.6 ^{±1}

Part No.	Switching function	Key way	Key way	Key way
ET125D ■ Z		ON	—	ON
Connecting terminals		2-3	—	2-1

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

ET210 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

L dimensions

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

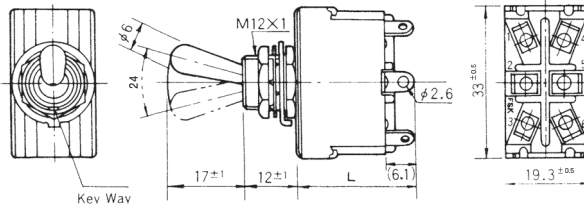
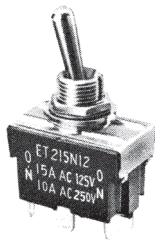
■ : Refer to "Table of Part Numbers" for a full list of part numbers.of part numbers.

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				
ET210P■					
ET210PA12	AC125 V 10 A				20,000 cycles

ET215 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET215K■•N■-Z		30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
ET215P■-Z		30.6 ^{±1}	28.4 ^{±1}	27.6 ^{±1}
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.

Specifications

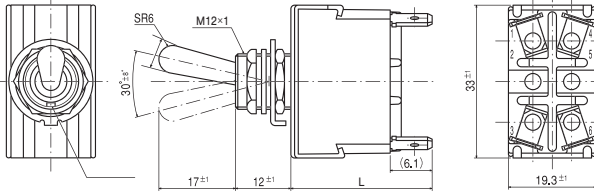
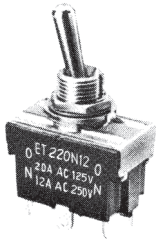
Rating		Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET215K■	AC125 V 15 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	30,000 cycles
ET215N■	AC250 V 10 A				
ET215P■					
ET215M■	AC125 V 15 A				20,000 cycles
ET215S■	AC250 V 10 A				

(ON)and(OFF) : Momentary.

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

ET220 (2 poles)

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



Terminal numbers are shown on the bottom of the switch.

L dimensions

Part No.	Terminal style	TAB#250	ScrewTerminal	Solder Terminal
ET220K■•N■-Z		-	-	27.6 ^{±1}

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

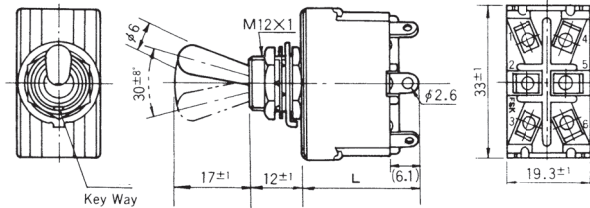
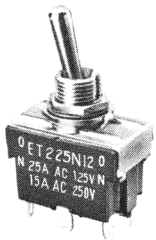
■ : Refer to "Table of Part Numbers" for a full list of part numbers.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET220K■ ET220N■	AC125 V 20 A AC250 V 12 A (DC2 V 100 mA)	20 mΩ Max. 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".



Terminal numbers are shown on the bottom of the switch.

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

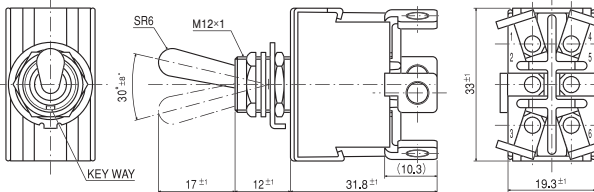
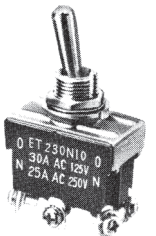
■ : Refer to "Table of Part Numbers" for a full list of part numbers.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET225K■ ET225N■ ET225P■	AC125 V 25 A AC250 V 15 A (DC2 V 100 mA)	20 mΩ Max. AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles

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.

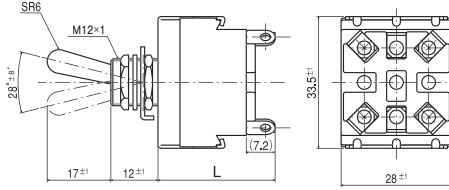
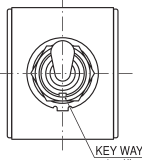
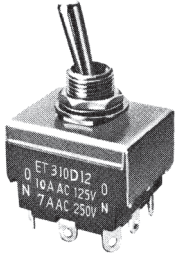
Part No.	Switching function	Key way	Key way	Key way
★ ET230N■-Z	ON	—	—	ON
★ ET230P■-Z	ON	OFF	—	ON
Connecting terminals	2-3 5-6	—	—	2-1 5-4

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET230N10 ET230P10	AC250 V 25 A AC125 V 30 A (DC2 V 100 mA)	20 mΩ Max. 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.

L dimensions

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

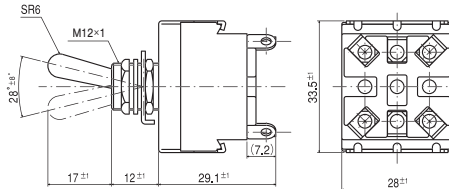
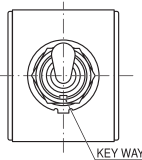
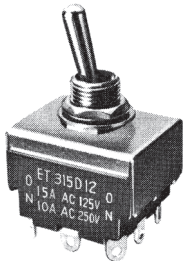
■ : Refer to "Table of Part Numbers" for a full list of part numbers.

Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life	
ET310A-Z	AC125 V 10 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	20,000 cycles
ET310D-Z	AC250 V 7 A				
ET310E-Z					

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.

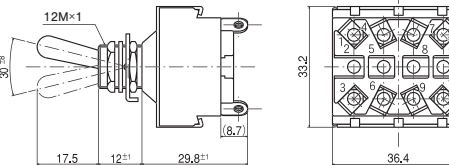
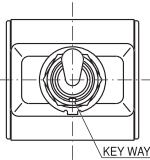
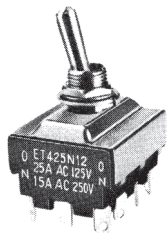
Part No.	Switching function	Key way	Key way	Key way
★ ET315D12-Z		ON	—	ON
★ ET315E12-Z		ON	OFF	ON
	Connecting terminals	2-3 5-6 8-9	—	2-1 5-4 8-7

Specifications

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

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	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

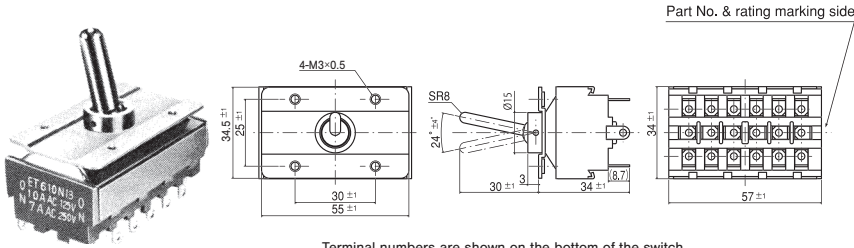
Specifications

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

★ : Made to order products.

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

ET610N13 (6 poles)

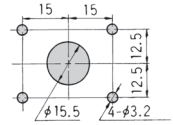


Terminal numbers are shown on the bottom of the switch.

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

Panel Cut-Out Dimensions

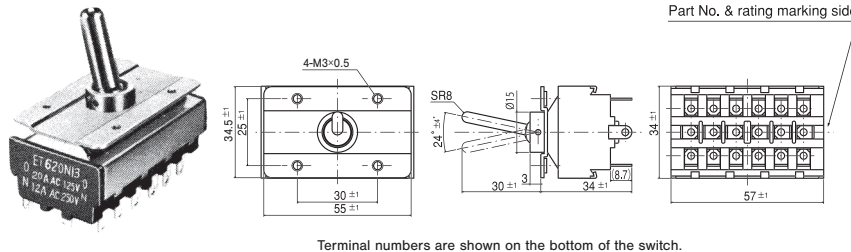
(Plate mounting type)



Specifications

Rating	Initial contact resistance	Dielectric strength	Insulation resistance	Electrical life
ET610N13 AC125 V 10 A AC250 V 7 A	20 mΩ Max. (DC2 V 100 mA)	AC1500 V minute	100 MΩ Min. (DC500 V)	5,000 cycles

ET620N13 (6 poles)

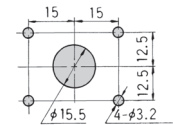


Terminal numbers are shown on the bottom of the switch.

Switching function	Viewed from part No. and rating marking side		
Part No.	★ ET620N13-Z	—	ON
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	☆ ET310D12-Z	54.6
	☆ 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	—	—

Even if the products are of UL- or CSA-approved ones, The products in stock do not carry the UL mark of the CSA mark. When placing an order, be sure to specify "With UL/CSA Mark." For the products with the UL mark or the CSA mark, extra costs will be added.
UL File No.E43275 CSA File No.LR38341

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

Packaging Specification

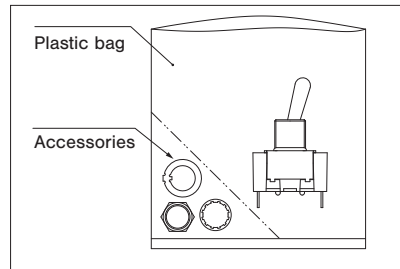
1. Soldering Specifications

(1) Manual Soldering

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

(2) Waterproof boot

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





2. Flux Cleaning

(1) Solvent : Fluorine or Alcohol type.





(2) The ET series are not washable. To wash the PC board, clean the soldering surface of the PC board with a brush so that the switch is not exposed to the cleaning solution.

Looking for pricing, stock, or lifecycle information?

Click below to explore more details on WIN SOURCE:

-  [View ET115D12-Z on WIN SOURCE](#)
-  [Nidec Copal Electronics Information](#)

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