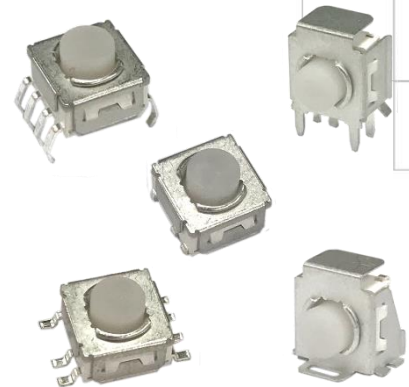


Series 228E

7.2 x 6.8mm IP67 Rated Illuminated Tactile Switch

- Surface mount gull-wing terminal and standard through hole configurations
- IP67 protection
- Compatible with IR reflow, and manual soldering
- Single or Tri-color display during illumination
- Variety of LED color options



Ordering Information

Series	Terminal Type	Actuating Direction	Actuation Force	LED Color	LED Type	Packaging
228E	M	V	A	R	F	R

Code	Spec.
D	Standard through hole (white actuator)
M	Surface mount gull wing (white actuator)
J	"J" bend terminal (white actuator)

Code	Spec.
V	Vertical
S	Side

Code	Spec.
R	Red
Y	Yellow
G	Green
B	Blue
W	White
A	Amber
RG	Red & Green
RB	Red & Blue
YG	Yellow & Green
RA	Red & Amber
AW	Amber & White
RGB	Red, Green, & Blue (only available for vertical actuation)

Code	Spec.
F	Flat

Code	Spec.
R	Tape & reel packaging (not available for vertical standard through hole type)
Blank	Tray packaging (only available for vertical standard through hole type)

Code	Spec.
A	200 gf



Electrical Specifications

Parameter	Conditions & Remarks	Min	Max	Unit
Contact Resistance			100	milliohms
Insulation Resistance	Between insulated terminals	100		megohms
Dielectric Strength	1 minute between adjacent switches		250	VAC
Nonswitching Rating			50 or 12	mA or VDC

Mechanical and Environmental

Soldering	Maximum reflow temperature, 260°C for 3 seconds Maximum wave temperature, 265°C for 5 seconds Maximum manual temperature, 350°C for 3 seconds
RoHS	Lead-Free. Fully compliant to RoHS Directive 2011/65/EU and 2015/863/EU
Operating Force	200gf $\pm$ 50gf
Actuation Life	100,000 cycles
Actuator Strength	2 Kgf maximum
Travel	0.7 $\pm$ 0.2mm
Packaging	Standard tape and reel packaging for surface mount gull wing terminal Tray packaging for standard through hole
Operating Temperature Range	-40°C to +85°C
Storage Temperature Range	-40°C to +85°C
Waterproof Grade	IP67

Mechanical Specifications

Figure 1 – 228EMV, Surface Mount Gull Wing, Vertical Actuation

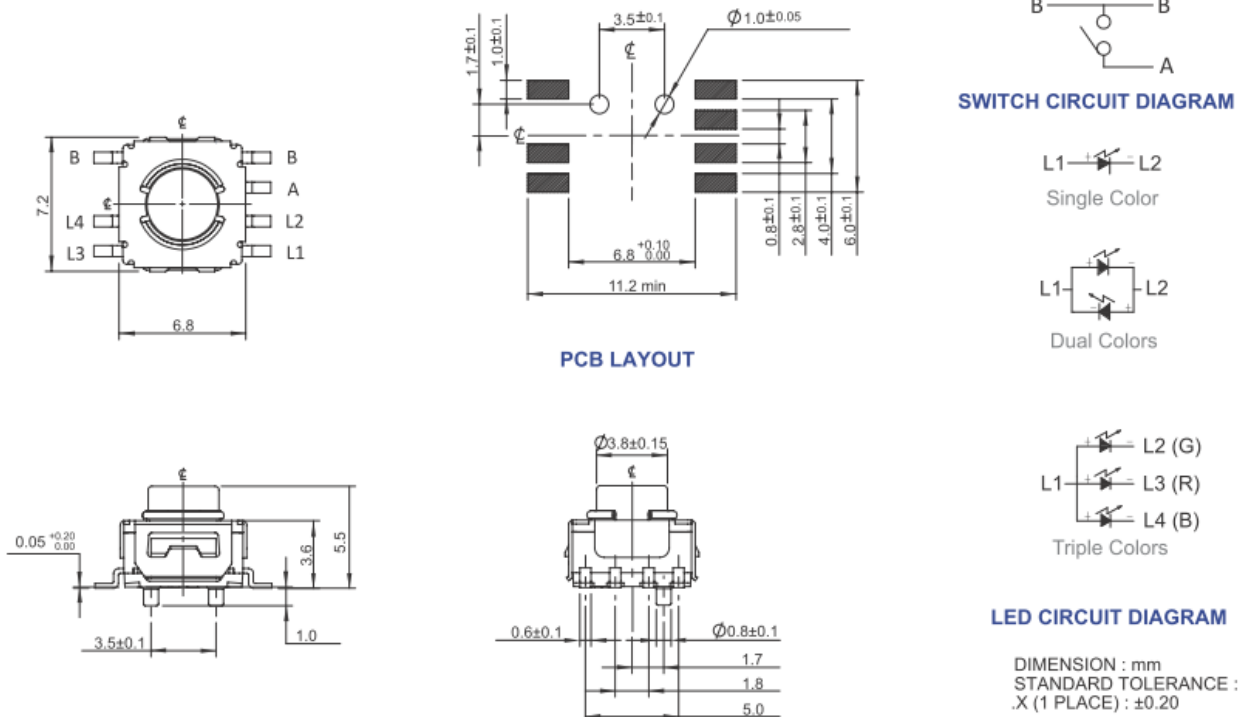


Figure 2 – 228EJV, “J” Bend Terminal, Vertical Actuation

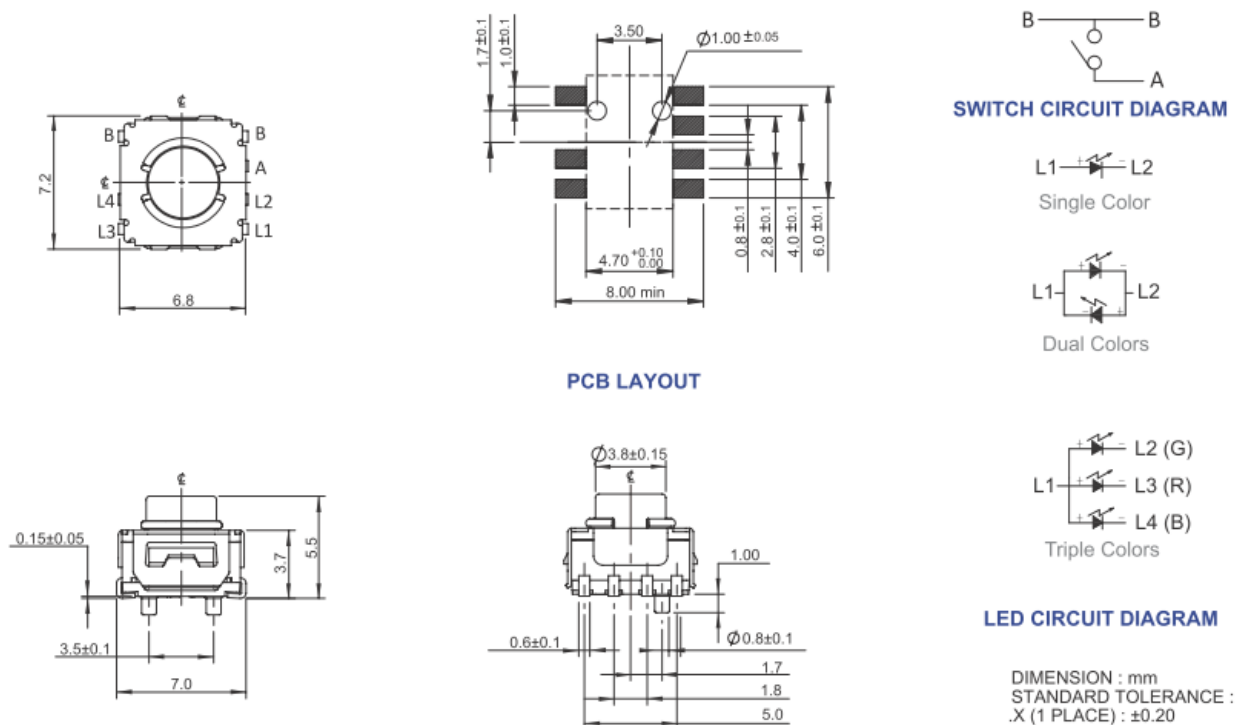


Figure 3 – 228EDV, Standard Though Hole, Vertical Actuation

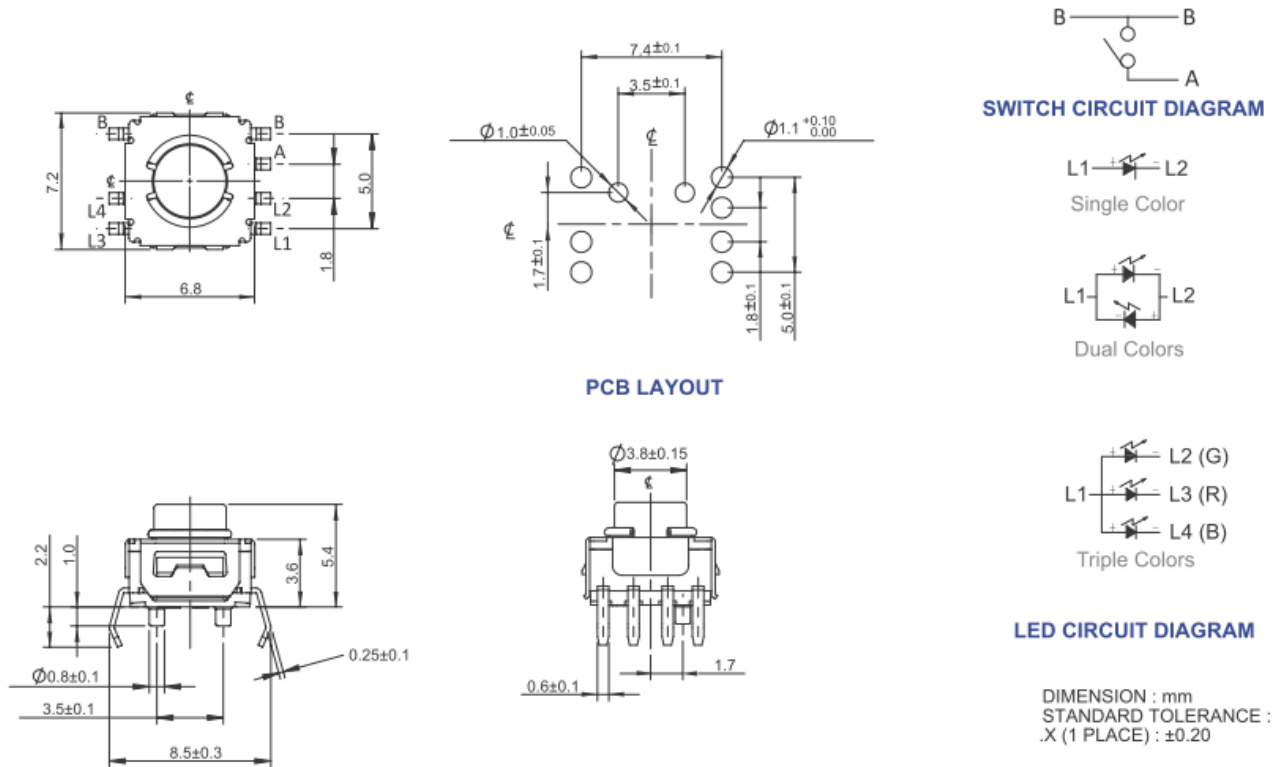


Figure 4 – 228EMS, Surface Mount Gull Wing, Side Actuation

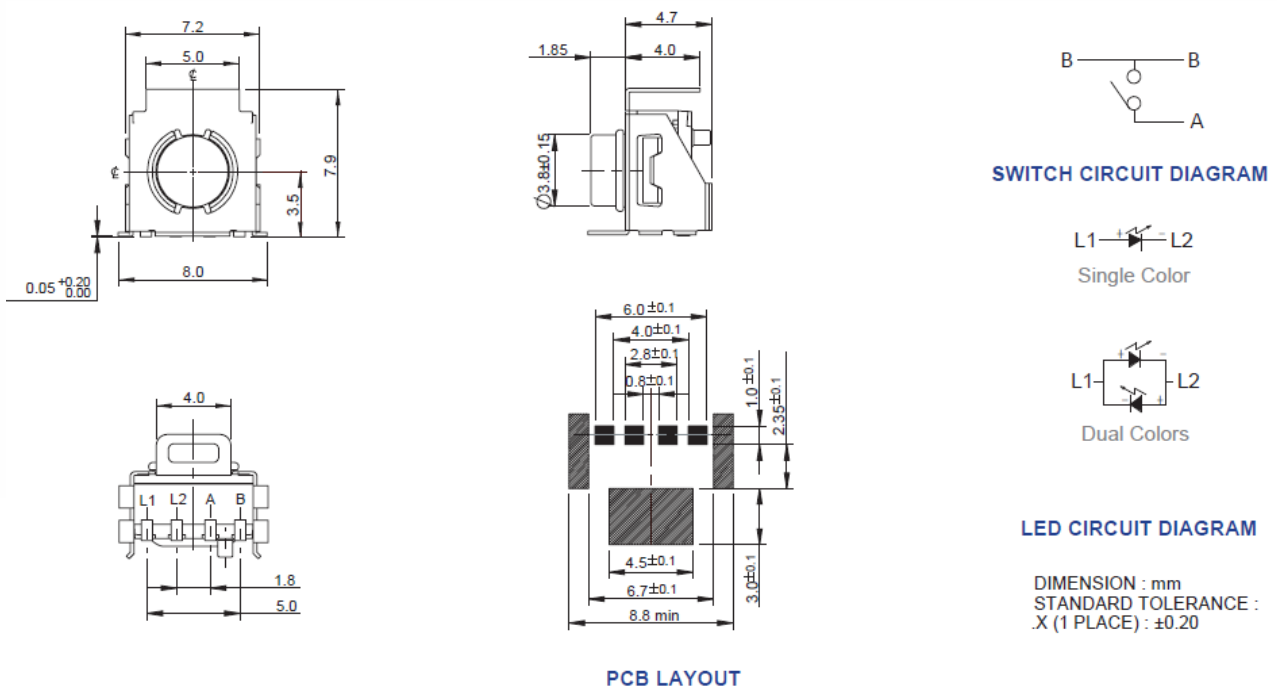
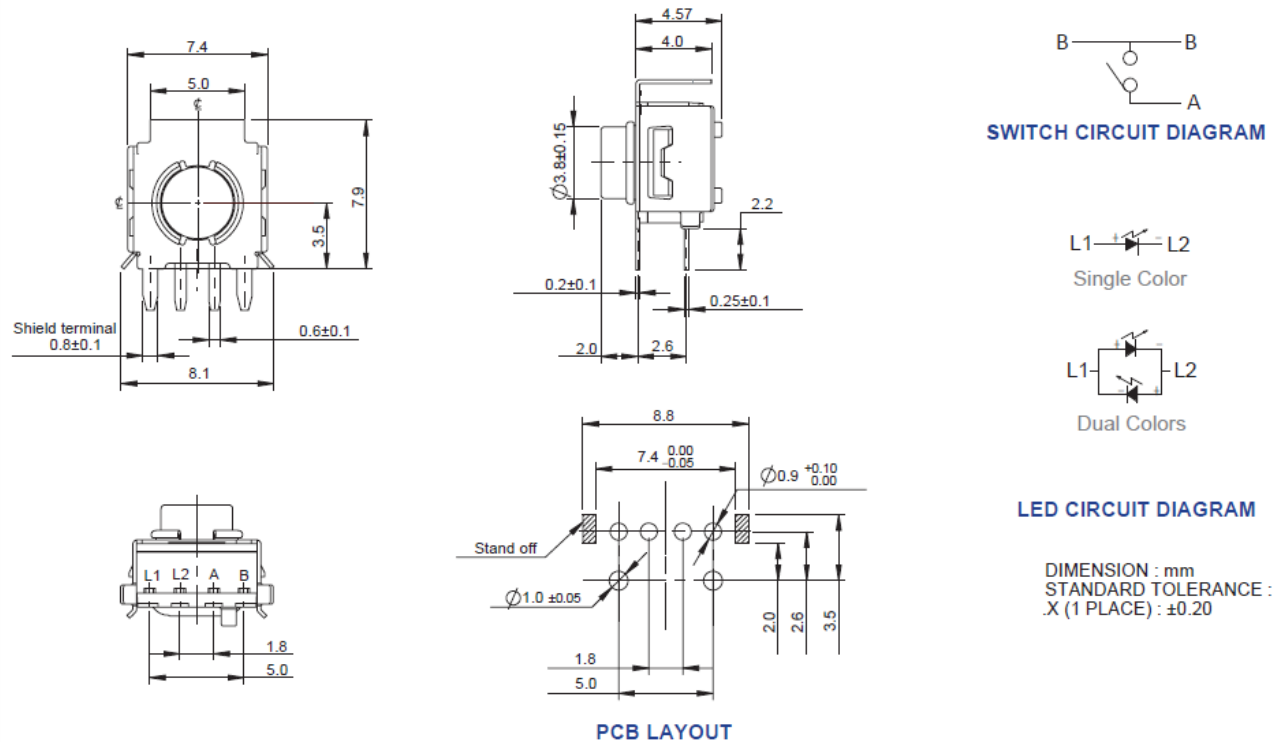


Figure 5 – 228EDS, Standard Through Hole, Side Actuation

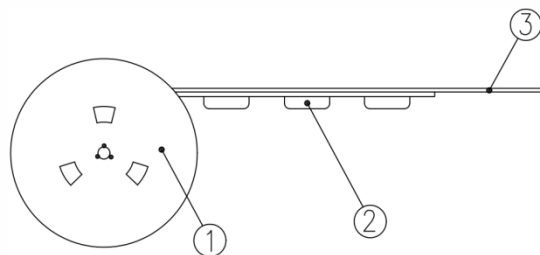


Packing: Tape and Reel

Surface Mount Gull Wing/J Bend Terminal, Vertical Actuation, 228EMV..., 228EJV...

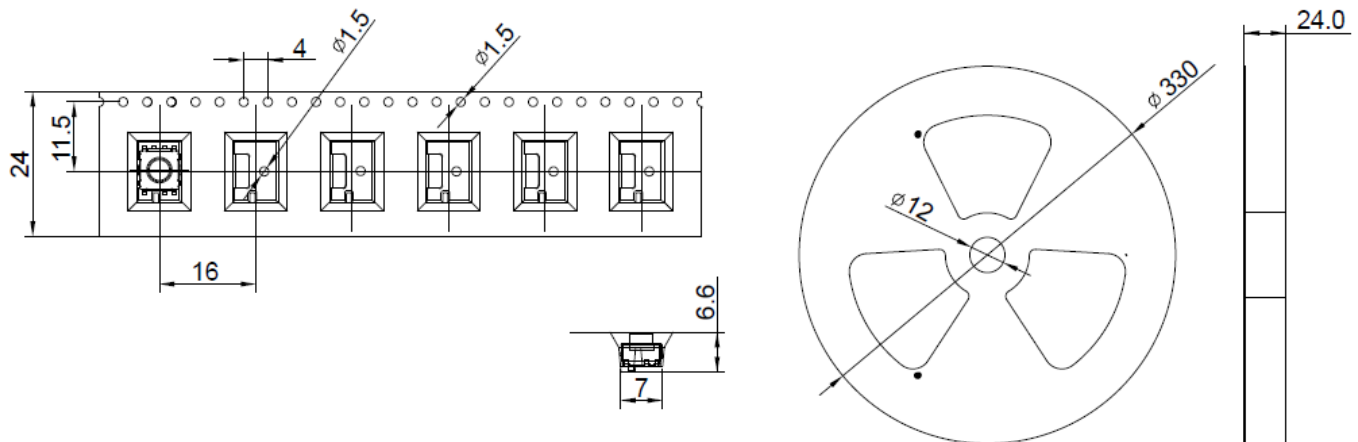
The packing specifications:

1. Structure and materials:



No	PART NAME	MATERIAL
①	REEL	POLYSTYRENE
②	CARRIER TAPE	POLYSTYRENE
③	COVER TAPE	POLYESTER

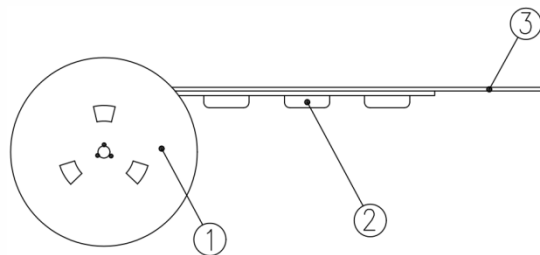
2. Packing quantity: 600 pcs/reel
3. More than 15 empty pockets should remain at each end of the carrier tape for each reel.
4. Shortage of less than 10 pcs a reel is acceptable but no more than 3 consecutive empty pockets are allowed.
5. Stripping strength of cover tape is between 10 gf to 130 gf and stripping angle should be within 165°~180°.
6. The product in the pocket of carrier tape should be placed in a specified correct position.
7. Tape and reel per EIA-481.
8. Dimensions:



Surface Mount Gull Wing, Side Actuation, 228EMS...

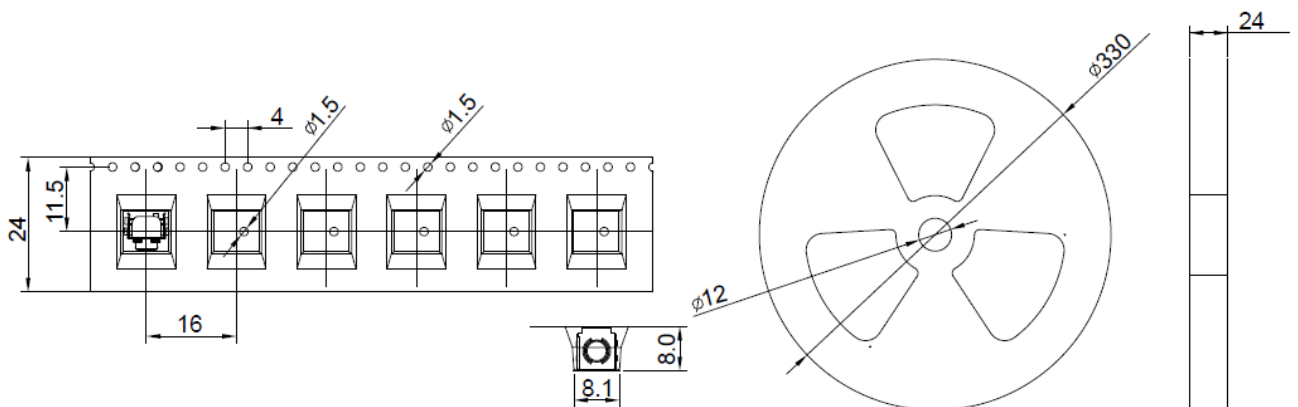
The packing specifications:

1. Structure and materials:



No	PART NAME	MATERIAL
①	REEL	POLYSTYRENE
②	CARRIER TAPE	POLYSTYRENE
③	COVER TAPE	POLYESTER

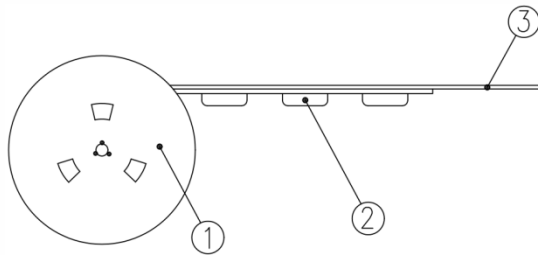
- Packing quantity: 700 pcs/reel
- More than 15 empty pockets should remain at each end of the carrier tape for each reel.
- Shortage of less than 10 pcs a reel is acceptable but no more than 3 consecutive empty pockets are allowed.
- Stripping strength of cover tape is between 10 gf to 130 gf and stripping angle should be within 165°~180°.
- The product in the pocket of carrier tape should be placed in a specified correct position.
- Tape and reel per EIA-481.
- Dimensions:



Standard Through Hole, Side Actuation, 228EDS...

The packing specifications:

9. Structure and materials:



No	PART NAME	MATERIAL
①	REEL	POLYSTYRENE
②	CARRIER TAPE	POLYSTYRENE
③	COVER TAPE	POLYESTER

10. Packing quantity: 450 pcs/reel

11. More than 15 empty pockets should remain at each end of the carrier tape for each reel.

12. Shortage of less than 10 pcs a reel is acceptable but no more than 3 consecutive empty pockets are allowed.

13. Stripping strength of cover tape is between 10 gf to 130 gf and stripping angle should be within 165°~180°.

14. The product in the pocket of carrier tape should be placed in a specified correct position.

15. Tape and reel per EIA-481.

16. Dimensions:

