



REVISION					
REV	DESCRIPTION	DATE	DESIGNED	CHECKED	APPROVED
A0	Initial Release	2023/05/23	Nina	Pool	Darren
A1	Add R24 Spec	2023/09/11	Nina	Pool	Darren
A2	Modified dimensional drawing	2023/10/27	Nina	Pool	Darren
A3	Add 1R5 Spec	2024/03/18	Nina	Pool	Darren
A4	Add 1R0 Spec	2024/03/22	Nina	Pool	Darren
A5	Add R10 Spec	2024/06/26	Nina	Pool	Darren
A6	Add R68 Spec	2024/10/15	Nina	Pool	Darren
A7	Add 2R2 Spec	2025/11/03	Nina	Pool	Darren

High Current, Power Inductors

MATB-201612-XXX-M-6A Power Choke



Applications

- Automotive applications

Description

- AEC-Q200 qualified
- Halogen Free
- 165°C maximum total temperature operation
- 2.2 x 1.8 x 1.2mm maximum surface mount package
- Magnetically shielded, low EMI
- High current carrying capacity, Low core losses
- RoHS compliant

Environmental Data

- Storage temperature range: -55°C to +165 °C
- Operating temperature range: -55°C to +165°C (ambient plus self-temperature rise)
- Solder reflow temperature: J-STD-020 compliant

Description														
MATB-201612-R10-M-6A						0.10μH			±20 %					
Model						Inductance Value			Inductance Tolerance					
Global Part Number														
M	A	T	B	2	0	1	6	1	2	R	1	0	M	6A
Product Series				Dimensions					Inductance Value			Tolerance	Automotive	

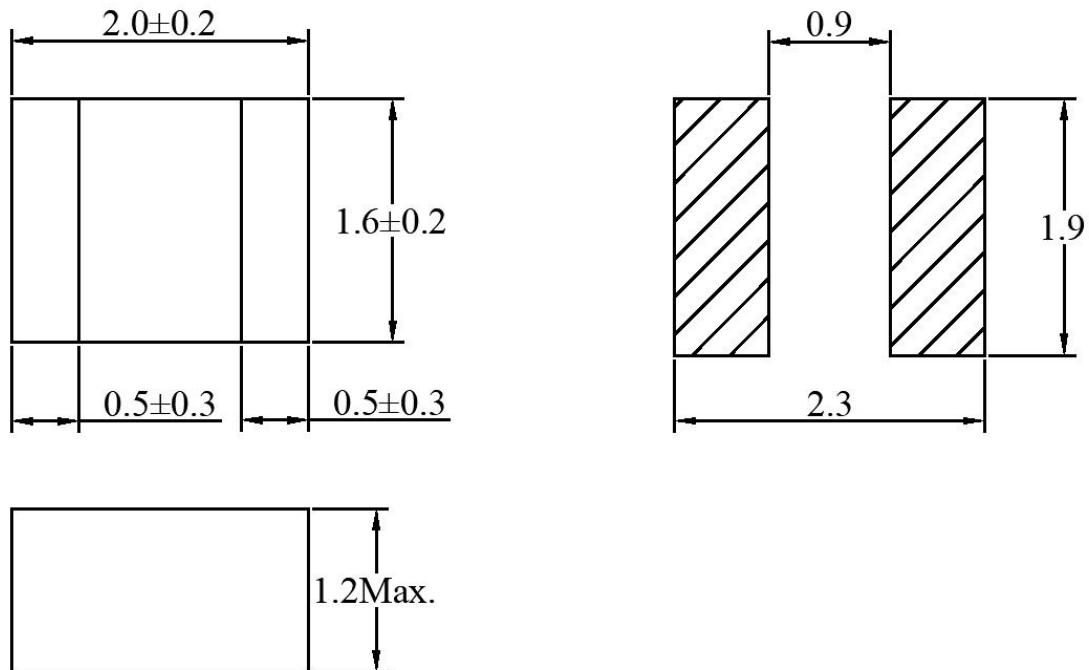
昆山玛冀电子有限公司

Part No.	Inductance	DC Resistance		Heating Rating Current		Saturation Current	
	L0 (μH)	DCR (mΩ)		Idc (A)		Isat (A)	
	±20 %, 1MHz, 1V	TYP.	MAX.	TYP.	MAX.	TYP.	MAX.
MATB-201612-R10-M-6A	0.10	5.0	9.0	9.0	6.5	10.0	9.0
MATB-201612-R22-M-6A	0.22	15.0	18.0	5.8	5.2	7.5	6.6
MATB-201612-R24-M-6A	0.24	17.0	20.0	5.1	4.8	6.5	5.8
MATB-201612-R33-M-6A	0.33	19.0	23.0	4.7	4.3	5.9	5.1
MATB-201612-R47-M-6A	0.47	21.0	25.0	4.6	4.2	5.4	5.0
MATB-201612-R68-M-6A	0.68	31.0	40.0	3.9	3.4	4.1	3.6
MATB-201612-1R0-M-6A	1.0	41.0	48.0	3.1	2.7	3.8	3.3
MATB-201612-1R5-M-6A	1.5	67.0	80.0	2.5	2.3	3.2	2.8
MATB-201612-2R2-M-6A	2.2	105.0	120.0	2.0	1.7	2.8	2.5

Notes

1. All test data is referenced to 25°C ambient
2. Operating temperature range - 55°C to + 165°C
3. Idc(A):DC current (A) that will cause an approximate ΔT of 40°C (reference ambient temperature is 25°C)
4. Isat(A):DC current (A) that will cause L0 to drop approximately 30%
5. The part temperature (ambient + temp rise) should not exceed 165 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

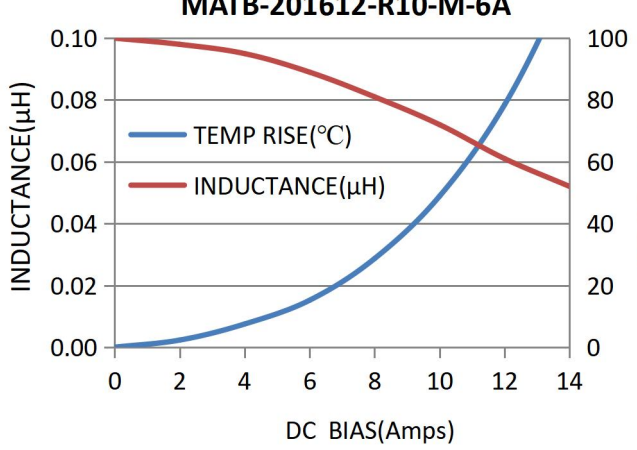
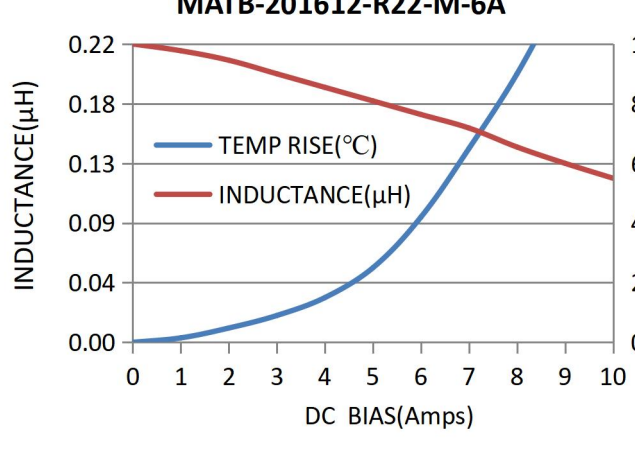
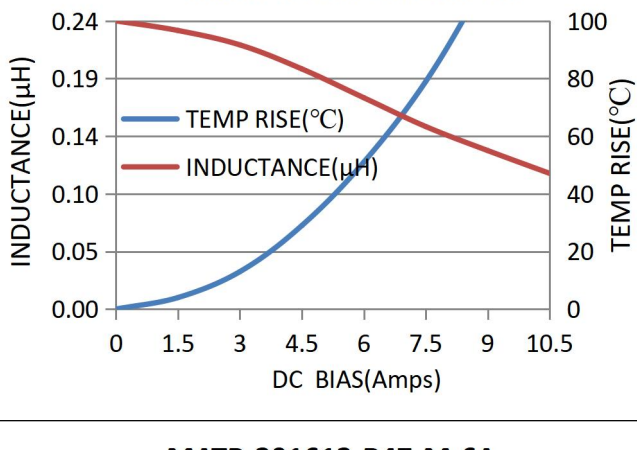
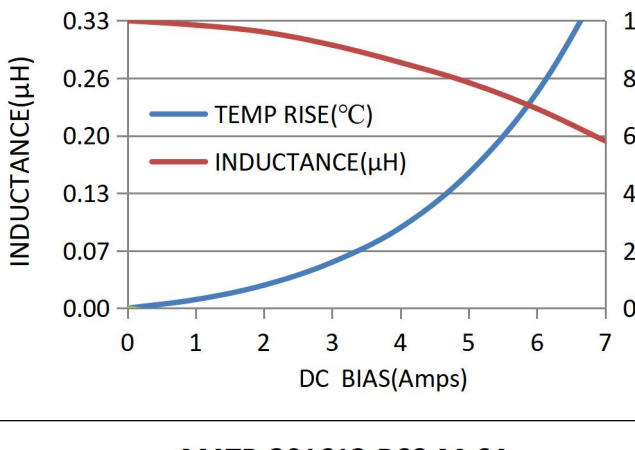
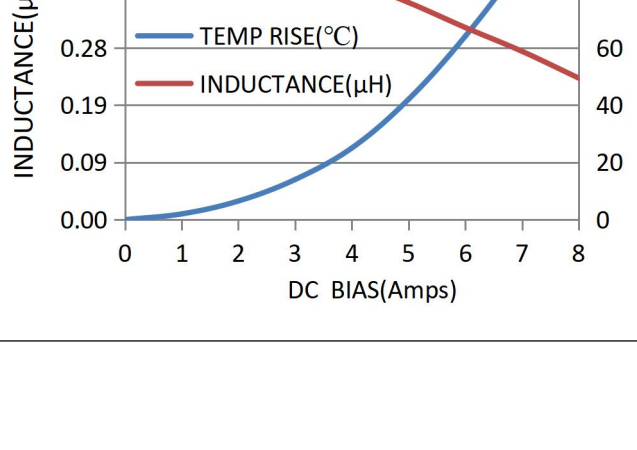
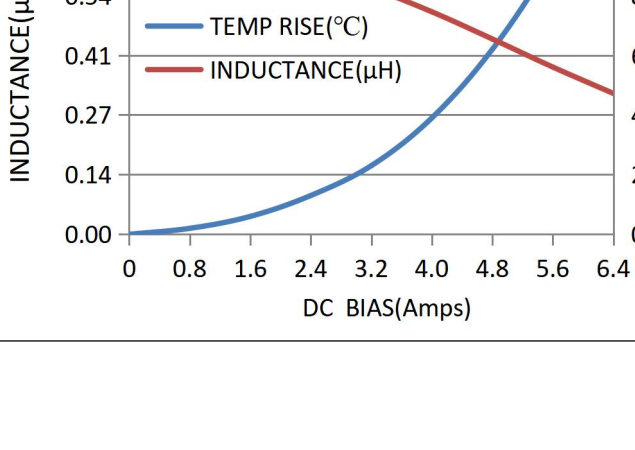
•Dimensions-mm

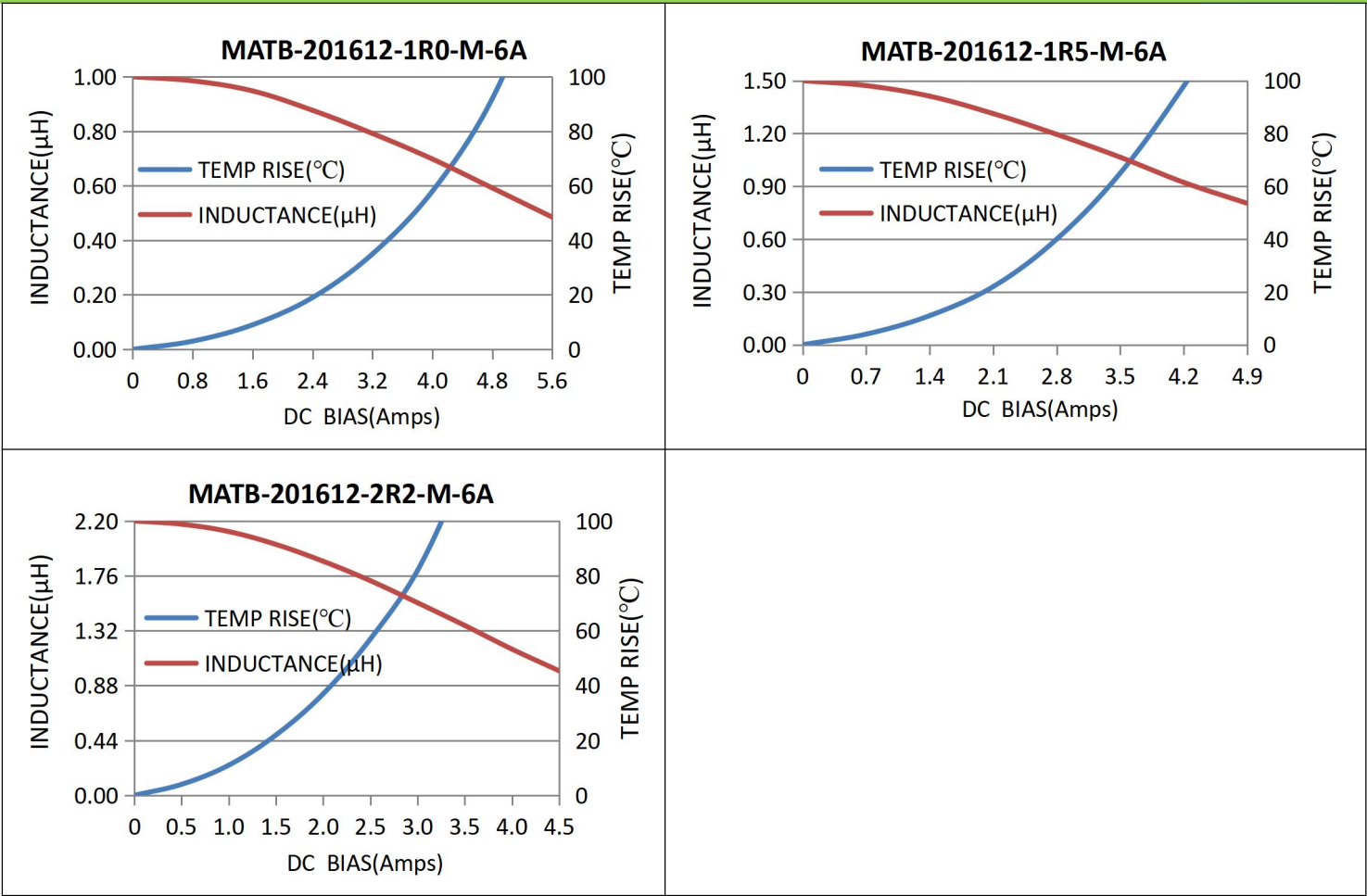


Notes

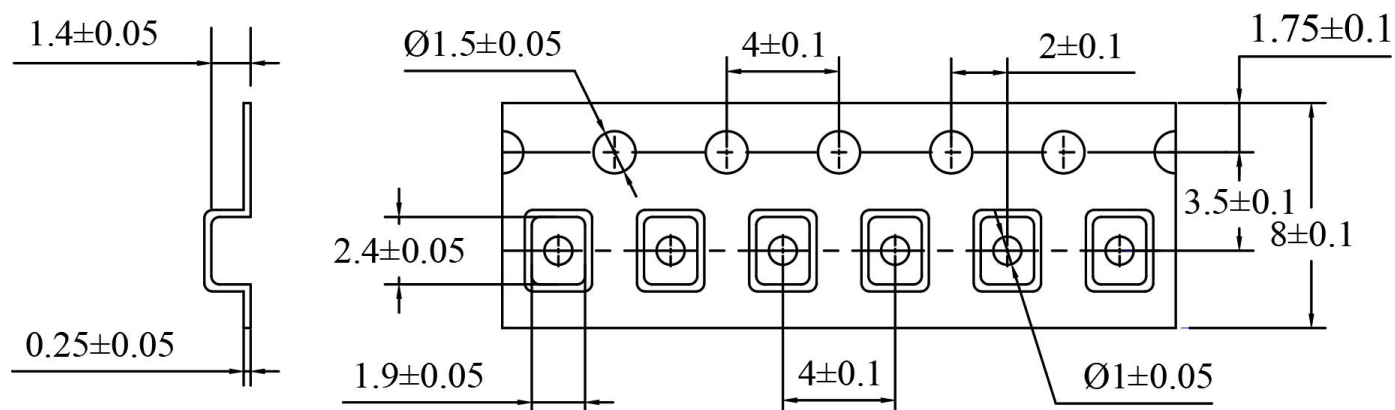
1. Tolerances are ± 0.1 millimeters unless stated otherwise
2. Dimensions of recommended PCB layout are reference only.
3. Do not route traces nor place vias underneath the inductor. Proper layout is required.

• NO Marking

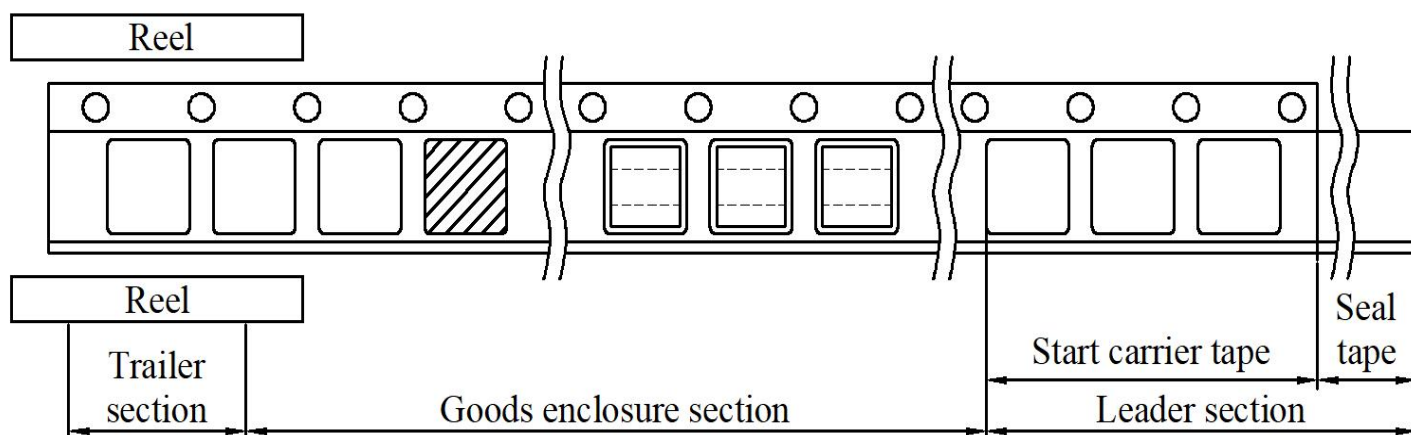
Performance Graphs	
Test Instruments	Test Condition
Wayne kerr 3260B/G LCR Meter Wayne kerr 3265B Bias Current Source	Temperature: $26 \pm 3^{\circ}\text{C}$ Humidity: < 70% RH Frequency: 1MHz, 1.0V
MATB-201612-R10-M-6A 	MATB-201612-R22-M-6A 
MATB-201612-R24-M-6A 	MATB-201612-R33-M-6A 
MATB-201612-R47-M-6A 	MATB-201612-R68-M-6A 



Tape Packaging Dimensions-mm

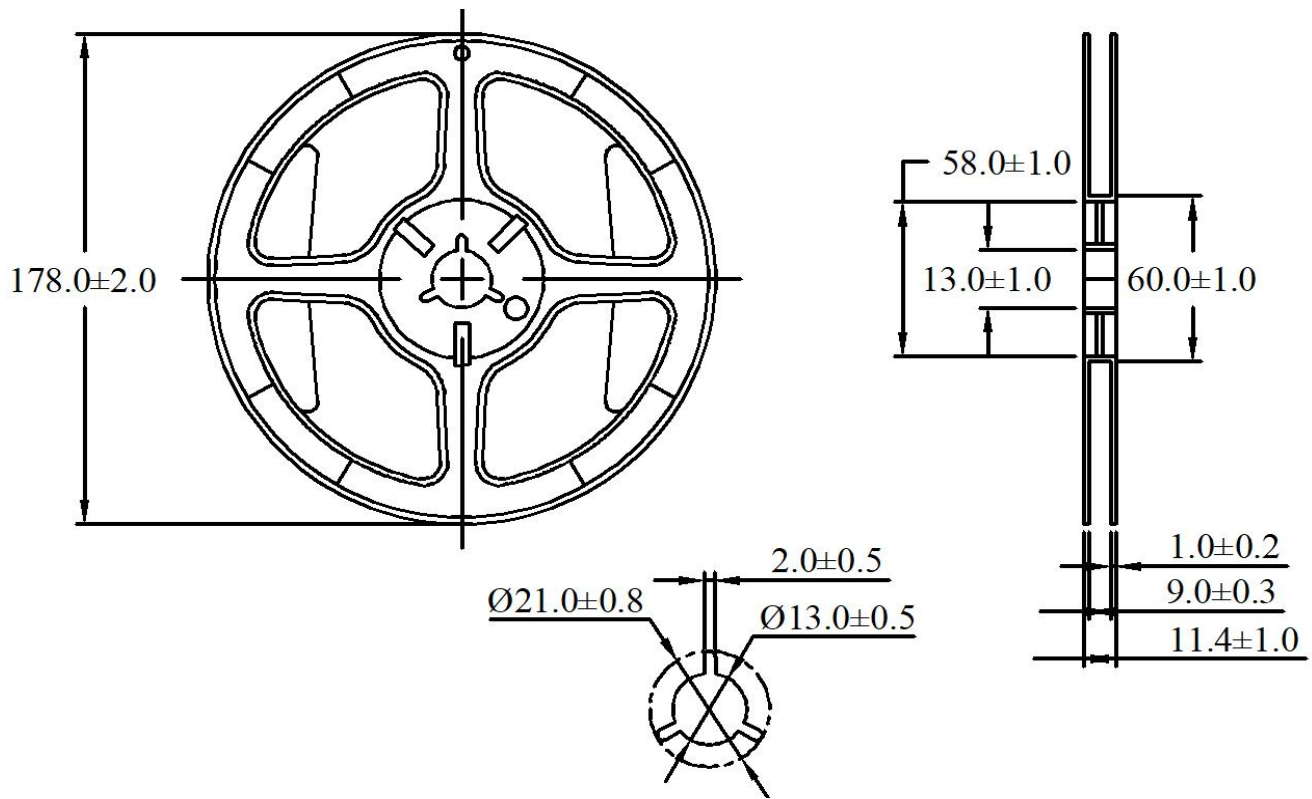


Taping dimension and tape direction, Leader ,Trailer,section dimension



Leader section	Min.400mm
Carrier tape start size	Min.100mm
Trailer section size	Min.160mm

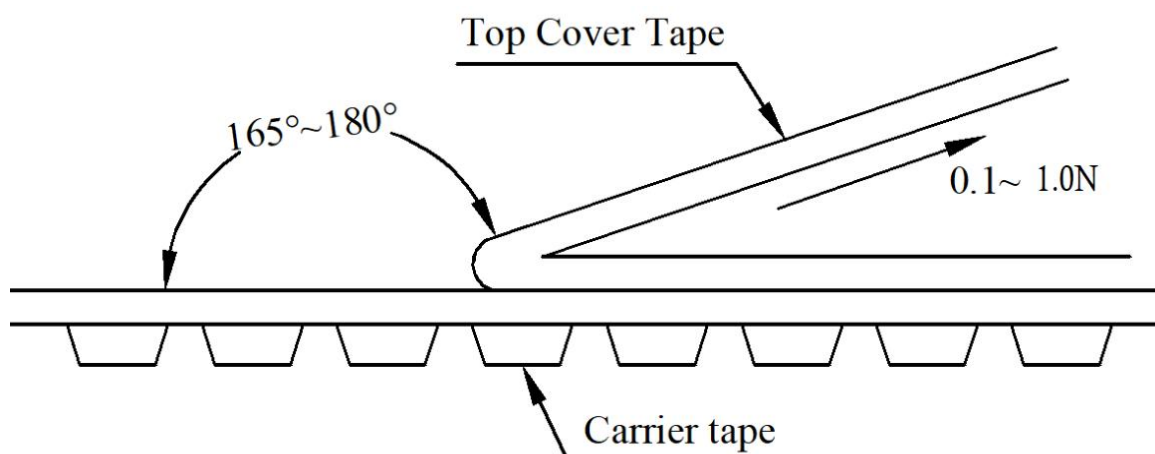
Reel Dimensions-mm



• Peel force of top cover tape

The peel speed shall be about 300mm/minute

The peel force of top cover tape shall be between 0.1 to 1.0 N



• Numbers of taping

3000pieces/reel