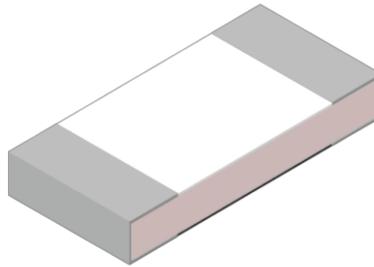


Top view



Bottom view

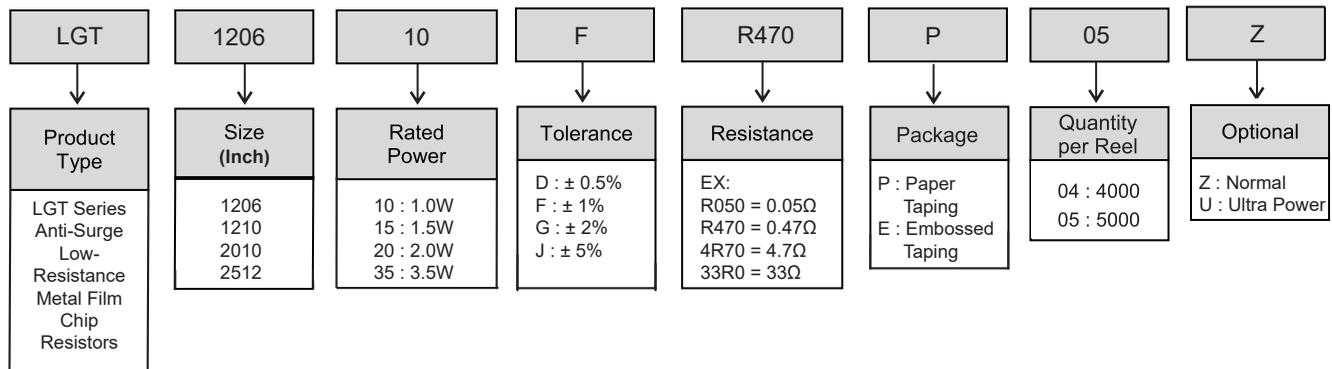
FEATURES

- Low resistance/TCR/Inductance (~5nH)
- Excellent long-term stability
- High precision current sensing
- High rated power capability and excellent anti-surge
- Halogen free and lead free
- RoHS compliant
- AEC-Q200 compliant

APPLICATION

- Consumer electronics
- Computer & relative products
- Communication devices
- Measuring instrument
- Industrial/Power supply
- Battery management system

PART NUMBER EXAMPLE



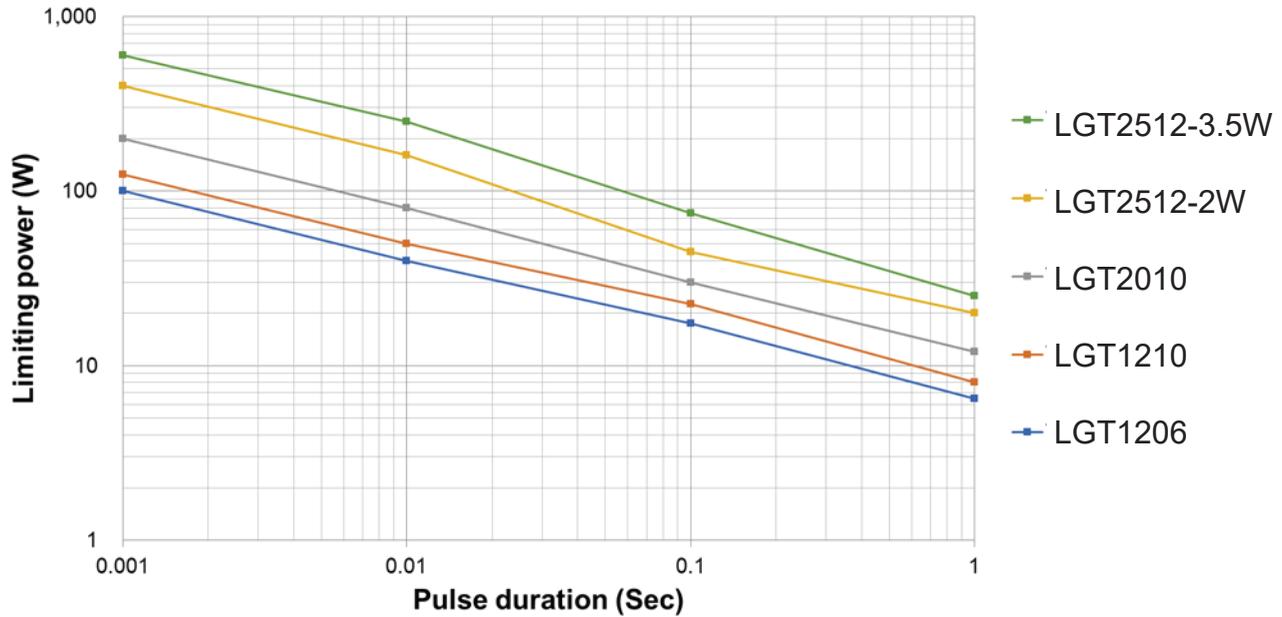
STANDARD ELECTRICAL SPECIFICATIONS

Type	Rated Power at 70°C	Max. Rated Current	Max. Overload Current	T.C.R. (ppm/°C)	Resistance Range	
					D(0.5%), F(1.0%), G(2.0%), J(5.0%)	
LGT1206	1W	4.47A	10.00A	±100	50 mΩ	R < 100 mΩ
LGT1210	1W	4.47A	10.00A	±50	100 mΩ	R 33 Ω
LGT2010	1.5W	5.48A	12.25A	±50	50 mΩ	R 50 Ω
LGT2512	2W	6.32A	14.14A			
	3.5W(U)	8.37A	18.71A			

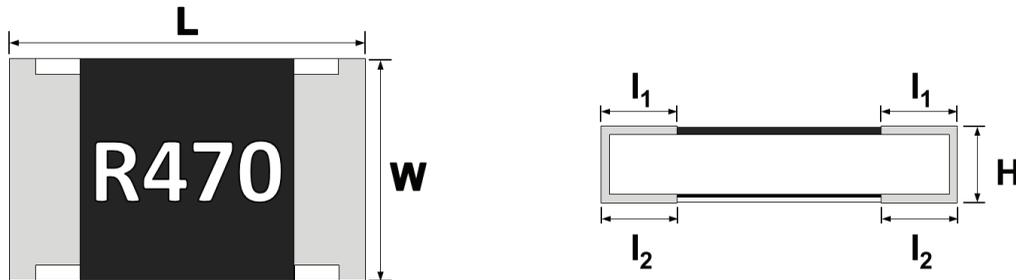
- For non-standard parts, please contact our sales dept.
- Operating Temperature Range : -55°C~+170°C.

■ ANTI-SURGE ABILITY

LGT1206~2512 P-T Surge Curve



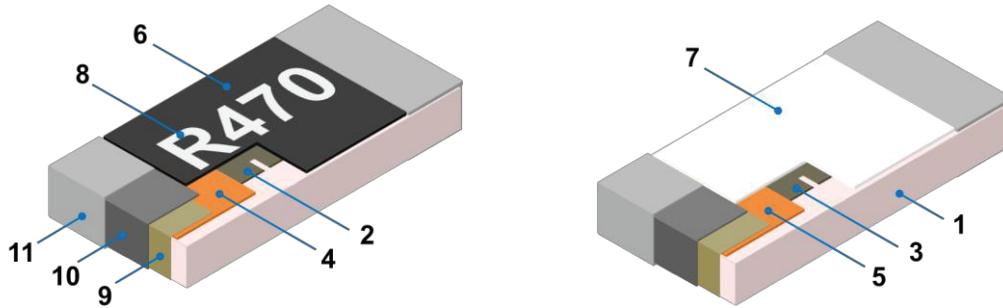
■ TYPE DIMENSION



Unit : mm

TYPE	L	W	H	l ₁	l ₂
LGT1206	3.10±0.10	1.60±0.10	0.65±0.15	0.40±0.20	0.45±0.20
LGT1210	3.10±0.10	2.50±0.15	0.65±0.15	0.50±0.20	0.50±0.20
LGT2010	5.00±0.20	2.50±0.15	0.65±0.15	0.60±0.25	0.60±0.25
LGT2512	6.30±0.20	3.20±0.20	0.65±0.15	0.65±0.25	0.65±0.25
LGT2512(U)	6.30±0.20	3.20±0.20	0.75±0.15	0.65±0.25	0.65±0.25

■ CONSTRUCTION



1	Alumina Substrate	7	Bottom Protective Overcoat
2	Top Resistive Layer	8	Marking
3	Bottom Resistive Layer	9	Side Inner Electrode
4	Top Inner Electrode (Cu)	10	Barrier Layer (Ni)
5	Bottom Inner Electrode (Cu)	11	Solder coating (Sn)
6	Top Protective Overcoat		

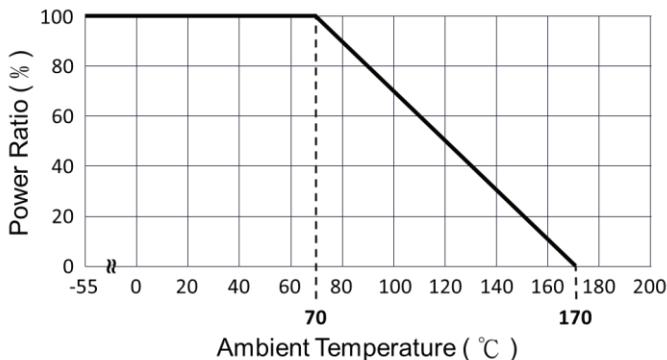
■ PERFORMANCE CHARACTERISTICS

■ POWER DERATING CURVE

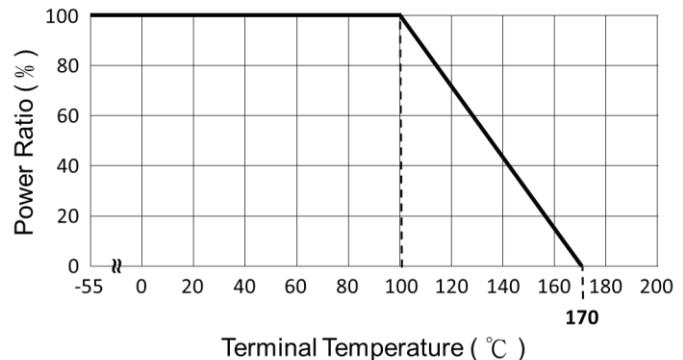
The Operating Temperature Range: $-55^{\circ}\text{C} \sim +170^{\circ}\text{C}$

Power rating or current rating is in the case based on continuous full-load at ambient temperature of 70°C . For operation at ambient temperature in excess of 70°C , the load should be derated in accordance with figure of derating curve. (Terminal temperature derating from above 100°C)

Derating Curve



Derating Curve



■ RATED CURRENT

Resistance Range : $\lt; 1 \Omega$

Rated Current : The resistor should have a DC continuous working current or AC (rms) continuous working current at commercial-line frequency and wave form corresponding to the power rating as determined formula as following:

$$I = \sqrt{P/R}$$

I = Rating Current (A)

P = Rating Power (W)

R = Resistance (Ω)

■ RATING VOLTAGE

Resistance Range : $\geq 1 \Omega$

Rated Voltage : The resistor should have a DC continuous working voltage or AC (rms) continuous working voltage at commercial-line frequency and wave form corresponding to the power rating as determined formula as following:

$$V = \sqrt{P \times R}$$

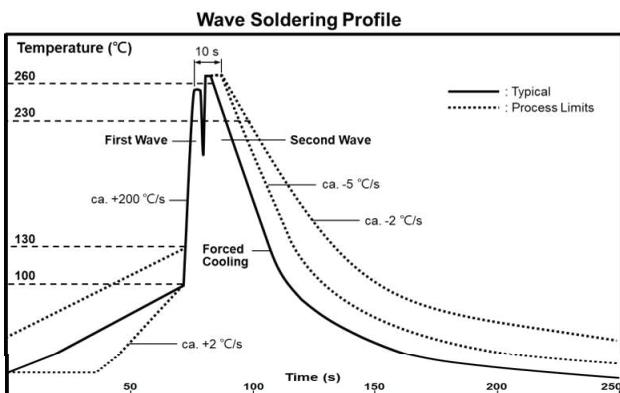
V = Rating Voltage (V)

P = Rating Power (W)

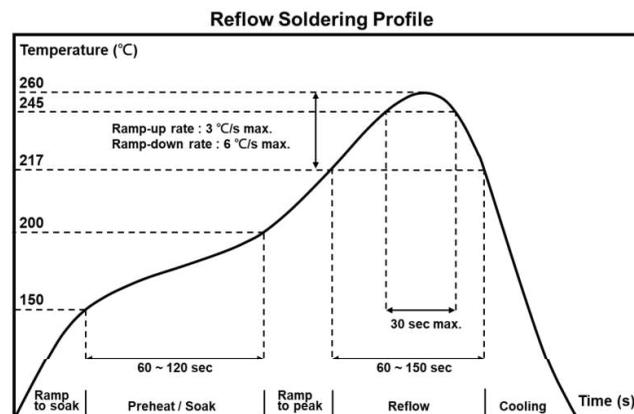
R = Nominal Resistance (Ω)

■ RECOMMENDED CUSTOMER SOLDERING PARAMETERS

■ WAVE SOLDER TEMPERATURE CONDITION



■ SOLDER REFLOW - TEMPERATURE CONDITION



Rework temperature (hot air equipment) : 350°C, 3~5 seconds

Recommended reflow methods

IR, vapor phase oven, hot air oven

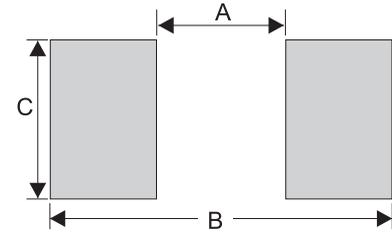
If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.

■ RELIABILITY TEST AND REQUIREMENT

Test Item	Test Method	Procedure	Requirement
Temperature Coefficient of Resistance (T.C.R)	JIS-C-5201-1 4.8 IEC-60115-1 4.8	At 25°C / +125°C, 25°C is the reference temperature	As Spec.
Short Time Overload	JIS-C-5201-1 4.13 IEC-60115-1 4.13	Standard power : 6.25 times rated power whichever is less for 5 seconds.	± (1.0%+0.001 Ω)
		High power (2X/4X) and wide terminal type : 5 times rated power whichever is less for 5 seconds.	
Insulation Resistance	JIS-C-5201-1 4.6 IEC-60115-1 4.6	Apply 100VDC for 1 minute	≥ 10G Ω
Dielectric Withstanding Voltage	JIS-C-5201-1 4.7	0805 / 0508 and above applied 500VAC for 1 minute 0201 / 0402 / 0603 applied 300VAC for 1 minute	No short or burned on the appearance
Core Body Strength	JIS-C-5201-1 4.15	Central part pressurizing force : 10N, 10 seconds	No broken
Solderability	JIS-C-5201-1 4.17 IEC-60115-1 4.17	245 ± 5°C for 3 seconds	> 95% Coverage No Visual damage
Resistance to Soldering Heat	JIS-C-5201-1 4.18 IEC-60115-1 4.18	260 ± 5°C for 10 seconds	± (1.0%+0.001 Ω) No Visual damage
Leaching	JIS-C-5201-1 4.18 IEC-60068-2-58 8.2.1	260 ± 5°C for 30 seconds	> 95% Coverage No Visual damage
Rapid Change of Temperature	JIS-C-5201-1 4.19 IEC-60115-1 4.19	-55°C to +155°C, 300 cycles	± (1.0%+0.001 Ω) No Visual damage
Damp Heat with Load	JIS-C-5201-1 4.24 IEC-60115-1 4.24	40±2°C, 90~95% R.H. RCWV or Max. working current whichever is less for 1000 hrs with 1.5hrs "ON" and 0.5hr "OFF"	± (1.0%+0.001 Ω)
Biased Humidity	ML-STD-202 Method 103	1000 hours, 85°C / 85% RH, 10% of operating power. Measurement at 24±4 hours after test conclusion	± (0.5%+0.05 Ω)
Load Life (Endurance)	JIS-C-5201-1 4.25 IEC-60115-1 4.25.1	70±2°C, RCWV or Max. working voltage whichever is less for 1000 hours with 1.5hrs "ON" and 0.5hr "OFF"	± (1.0%+0.001 Ω)
High Temperature Exposure	JIS-C-5201-1 4.25 IEC-60068-2-2	At 155±5°C for 1000 hours	± (1.0%+0.001 Ω)
Resistance to Solvent	JIS-C-5201-1 4.29	The tested resistor be immersed into isopropyl alcohol of 20~25°C for 60 seconds. Then the resistor is left in the room for 48 hrs.	± (1.0%+0.001 Ω) No Visual damage
Terminal Strength (SMD)	JIS-C5201-1 4.32 AEC Q200-006	Pressurizing force for 10 seconds 0201 / 0402 / 0603 : 8N; 0805 / 0508 and above : 17.7N	No broken
Bending Strength	JIS-C-5201-1 4.33 IEC-60115-1 4.33	Bending once for 5 seconds: D: 0201 / 0402 / 0603 / 0805 = 5mm 1206 / 1210 / 0508 / 0612 = 3mm 2010 / 2512 / 1020 / 1225 = 2mm	± (1.0%+0.001 Ω) No Visual damage

RECOMMENDED LAND PATTERN DESIGN

Type	A	B	C
LGT1206	2.20	4.20	1.80
LGT1210	2.00	4.40	2.70
LGT2010	3.80	6.60	2.70
LGT2512	4.90	8.10	3.40



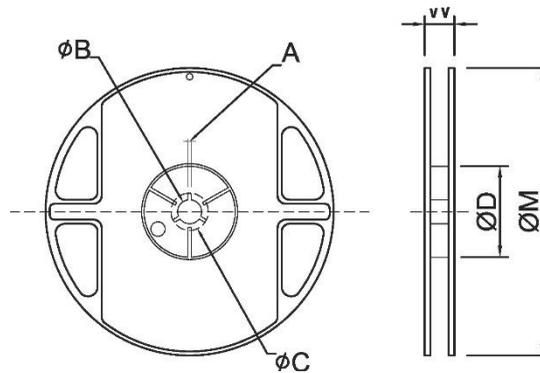
PLATING THICKNESS

Ni : $\geq 3 \mu\text{m}$

Sn(Tin) : $\geq 3 \mu\text{m}$

APPENDIX FOR SMD CHIP RESISTOR

- Packaging Information
 - Reel Dimensions

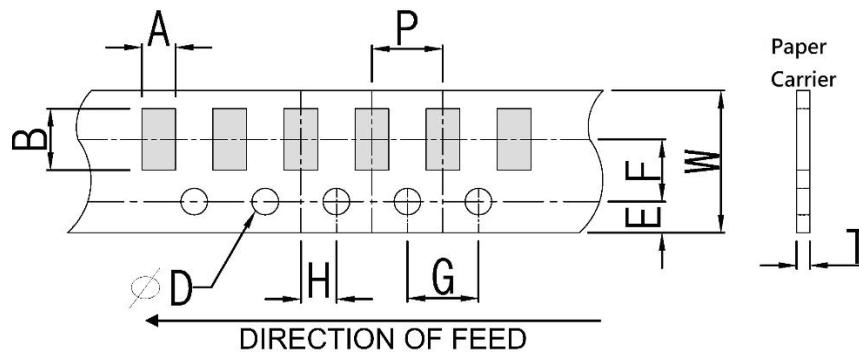


Unit: mm

Type	Size	A	ΦB	ΦC	ΦD	W	ΦM
LGT1206	7" 5K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
LGT1210	7" 5K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	11.5±2.0	178±2.0
LGT2010	7" 4K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	16.0±2.0	178±2.0
LGT2512	7" 4K/Reel	2.0±0.5	13.5±1.0	21±1.0	60±1.0	16.0±2.0	178±2.0

PACKAGING INFORMATION (continued)

TAPING SPECIFICATION

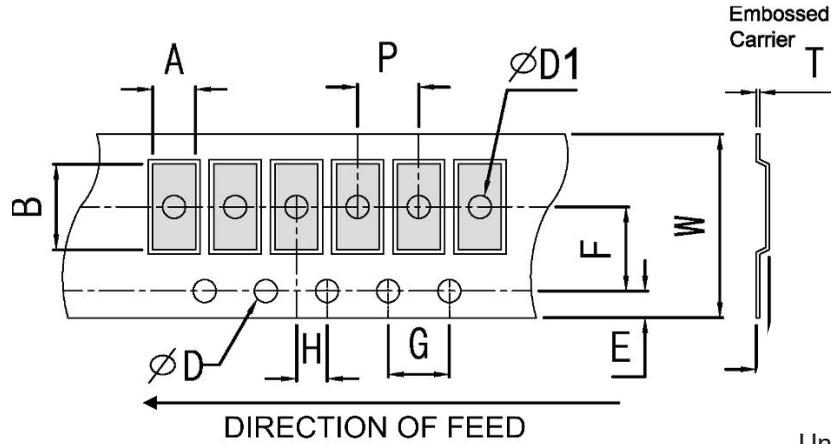


Unit: mm

Packaging	Type	A	B	W	E	F	G	H	T	ΦD	P
Paper Type	1206	1.90±0.2	3.05±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	2.0±0.05	0.75±0.1	1.50 ^{+0.1} ₋₀	4.0±0.1
	1210	2.85±0.2	3.05±0.2	8.0±0.2	1.75±0.1	3.5±0.05	4.0±0.1	2.0±0.05	0.75±0.1		4.0±0.1

■ **PACKAGING INFORMATION** (continued)

■ **EMBOSSED DIMENSIONS**

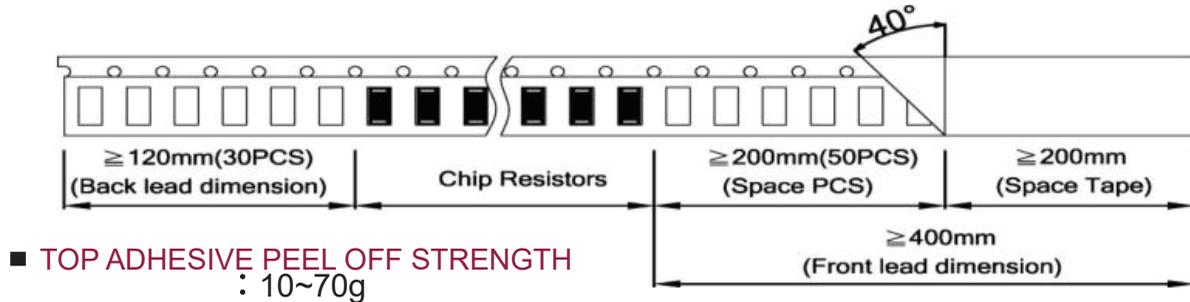


Unit: mm

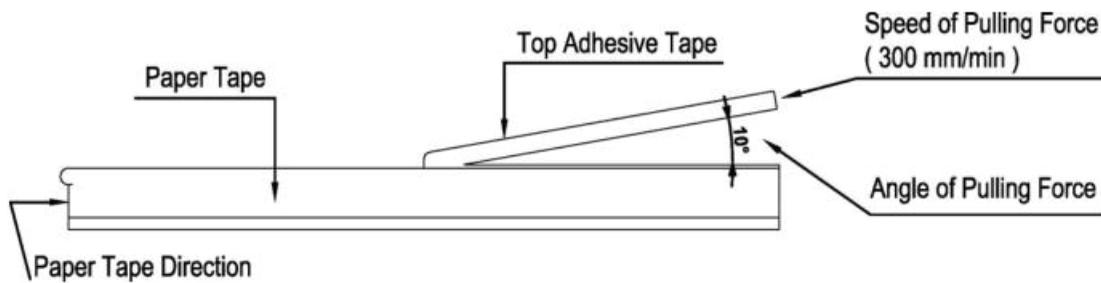
Packaging	Type	A	B	W	E	F	G	H	T	ΦD	ΦD1	T1	P
Embossed Type	2010	2.80±0.2	5.60±0.2	12±0.1	1.75±0.1	5.5±0.05	4.0±0.1	2.0±0.05	0.23±0.1	1.50 ^{+0.1} ₀	1.50±0.1	0.85±0.15	4.0±0.1
	2512	3.40±0.2	6.70±0.2	12±0.1	1.75±0.1	5.5±0.05	4.0±0.1	2.0±0.05	0.23±0.1				

■ **PACKAGING MATERIAL DATA / STORAGE DATA**

■ **FRONT & BACK LEAD DIMENSIONS**

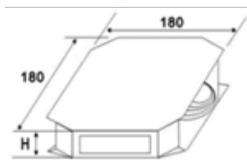


■ **TOP ADHESIVE PEEL OFF STRENGTH**
: 10~70g

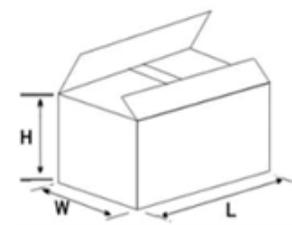


■ **PACKAGE**

Inner Box Size	
Reel	Size H(mm)
1	13
2	24
3	36
5	60
10	113



External Box Size			
Contain (Kpcs)	Length (mm)	Width (mm)	Height (mm)
25K	180	180	60
50K	180	180	110
150K	430	200	200
300K	400	400	200



■ **STORAGE DATA** Storage time at the environment temp: 25±5°C & humidity: 60±20% is valid for two years.