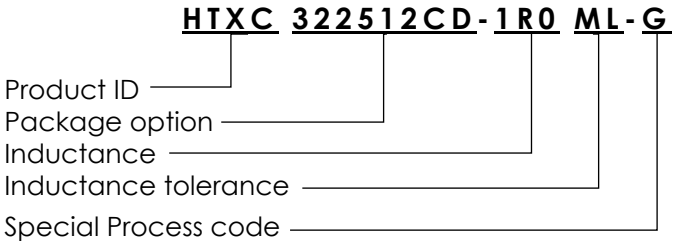
■ Feature

Metal material for large current and low loss.
High performance (Isat) realized by metal dust core.
Low loss realized with low Rdc.
Closed magnetic circuit design reduces leakage flux.
Vinyl thermal spray, better surface compactness.
RoHS compliant.

■ Ordering Information

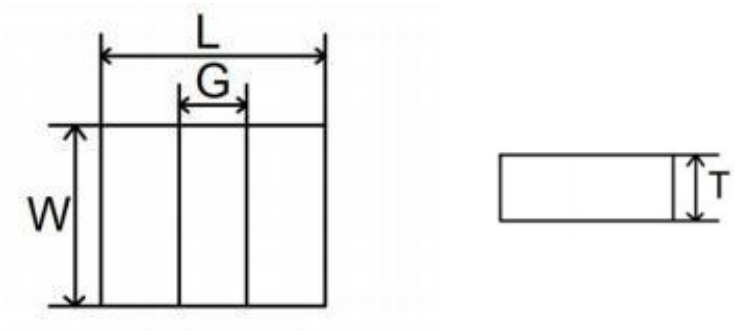


■ Electrical Characteristics (Ta=25℃ unless otherwise specified)

Part Number	Inductance (μH) ±20%	DCR (mΩ)		Isat (A)		Irms (A)	
		Typ	Max	Typ	Max	Typ	Max
HTXC322512CD-1R0ML-G	1.0	18.0	21.0	7.7	7.0	5.5	5.0

Note 1. : All test data is referenced to 25±3℃ ambient.
Note 2. : Test Condition:1MHz, 1.0Vrms
Note 3. : Idc : DC current (A) that will cause an approximate △T of 40℃
Note 4. : Isat : DC current (A) that will cause Lo to drop approximately 30%
Note 5. : Operating Temperature Range -55℃ to + 125℃
Note 6. : The part temperature (ambient + temp rise) should not exceed 125℃ under worse case operating conditions. Circuit design , component placement, PWB trace size and thickness, airflow and other cooling provision all affect the part temperature. Part temperature should be verified in the end application.
Note 7. : The rated current as listed is either the saturation current or the heating current depending on which value is lower

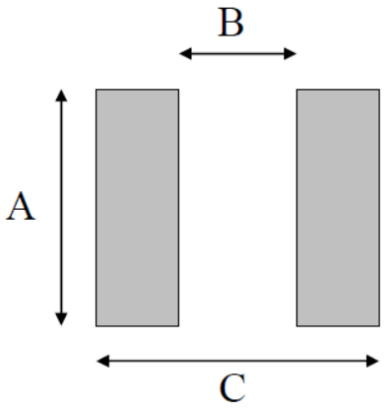
■ Package Outline



Unit: mm

Symbol	Dimensions
L	3.2 ±0.2
W	2.5 ±0.2
T	1.2 Max.
G	0.9 Typ

■ Land Pattern (Reference)

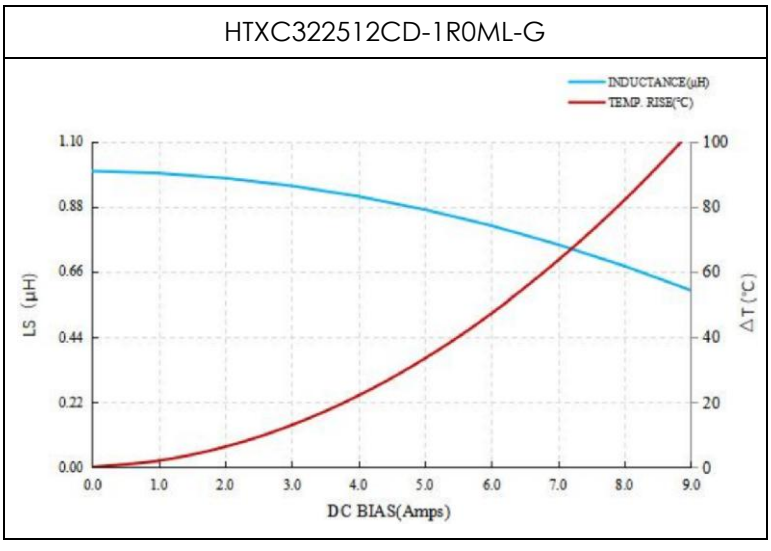


Unit: mm

Symbol	Dimensions
A	2.80
B	1.80
C	3.70

■ Typical Performance Curves

HTXC322512CD-1R0ML-G



■ Reliability and Test Condition

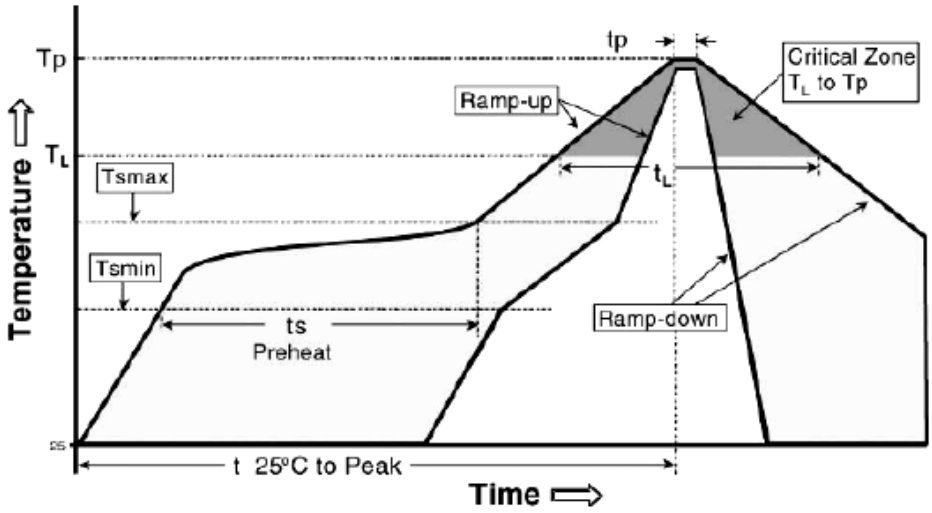
◎Mechanical

Item	Specification and Requirement	Test Method
Solderability	The tin-stained area shall not be less than 95% of the electrode surface.	①Pretreatment: 155±5°C 60±2S ②Keep 2±0.5s in 245±5°C tin furnace.
Vibration	△L≤±10% Without distinct damage in appearance.	①Vibration frequency: (10Hz→55Hz→10Hz)60s as a period. ②Vibration time: the vibration (period) cycle in each of 3 mutual perpendicular directions is 2 hrs. ③Amplitude: 1.5mm Max.
Mechanical Shock	△L≤±10% Without distinct damage in appearance.	①Max amplitude: 100G. ②Pulse duration: 11ms. ③Shock 3 times in each positive and negative direction of 3 mutual perpendicular directions.

◎Endurance

Item	Specification and Requirement	Test Method
Thermal shock	△L≤±10% Without distinct damage in appearance.	①125°C*24hrs→(85/85)*168hrs→Reflow*260C *3 times. ②Repeat the following cycle: (-55±2°C, 30±3mins)→(room temp, 5 mins)→(125±2°C, 30±3 mins)→(room temp, 5 mins). ③Recovery: 48+4/-0hrs at room temp after test.
High temperature exposure	△L≤±10% Without distinct damage in appearance.	①Environmental conditions: 85±2°C Application current: rated current. ②Duration: 1,000+4/-0hrs.
Humidity resistance	△L≤±10% Without distinct damage in appearance.	①Environmental conditions: 60±2°C Humidity: 90~95%RH Application current: rated current. ②Duration: 1,000+4/-0hrs.
Low temperature storage	△L≤±10% Without distinct damage in appearance.	①Storage temp: -55±2°C ②Duration: 1,000+4/-0hrs. ③Recovery: 48+4/-0hrs at room temp after test.
High temperature storage	△L≤±10% Without distinct damage in appearance.	①Storage temp: 125±2°C. ②Duration: 1,000+4/-0hrs. ③Recovery: 48+4/-0hrs at room temp after test.

■ Soldering Condition

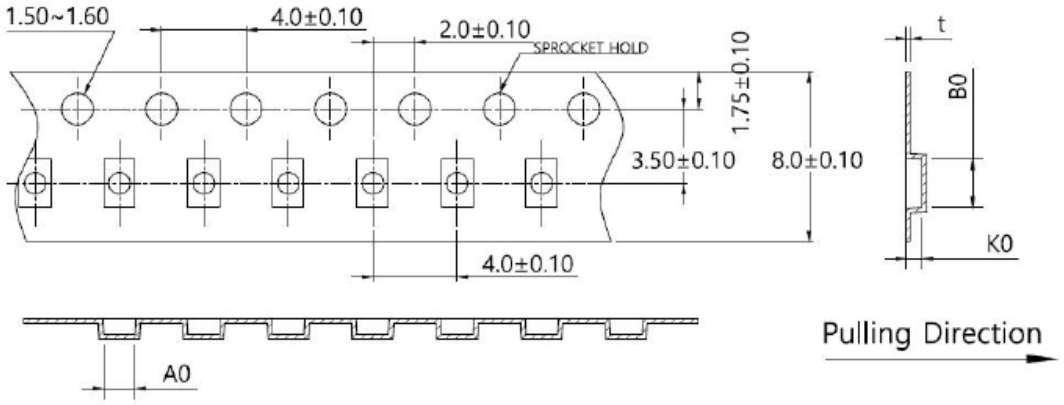


Profile Feature	Lead (Pb)-Free solder
Preheat： Temperature Min (Tsmin) Temperature Max (Tsmax) Time (Tsmin to Tsmax) (ts)	 150°C 200°C 60 -120 seconds
Average ramp-up rate： (Ts max to Tp)	 3°C / second max.
Time maintained above : Temperature (TL) Time (tL)	 217°C 60-150 seconds
Peak Temperature (Tp)	260°C
Time within +0–5°C of actual peak Temperature (tp)2	10 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8minutes max.

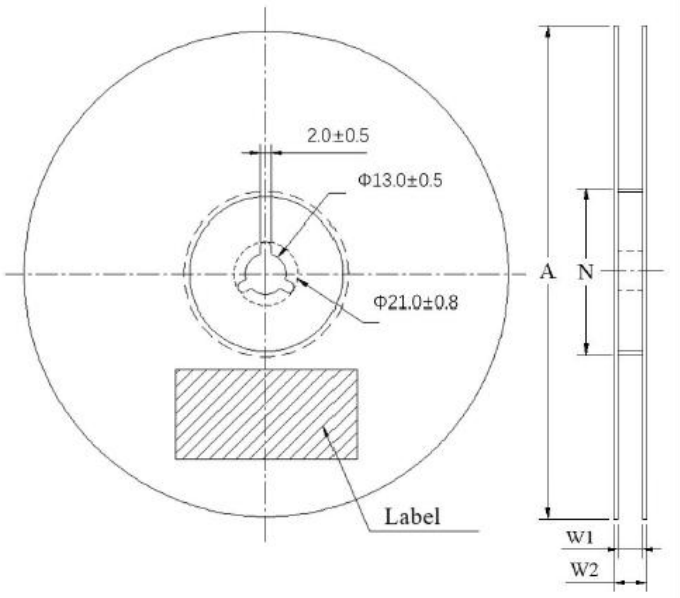
Allowed Re-flow times : 2 times

Remark : To avoid discoloration phenomena of chip on terminal electrodes, please use N2 Re-flow furnace .

■ Package



Item	A0	B0	K0	T
Size/mm	2.9±0.10	3.5±0.10	1.35±0.10	0.25±0.10



Item	A	N	W1	W2
Size/mm	Φ178.0±2.0	Φ60.0±0.2	9.0±0.3	11.4±1.0

■ Packaging Quantity

3,000pcs/reel

■ Storage Methods

1. recommend products store in warehouse with temperature between 15 to 35℃ under humidity between 25 to 75%RH.
   Even under storage conditions recommended above, solder ability of products will be degraded stored over 1 year old.

2. Cartons must be placed in correct direction which indicated on carton, otherwise the reel or wire will be deformed.

3. Storage conditions as below are inappropriate:
   a. Stored in high electrostatic environment
   b. Stored in direct sunshine, rain, snow or condensation.
   c. Exposed to sea wind or corrosive gases, such as Cl2, H2S, NH3, SO2, NO2, etc.