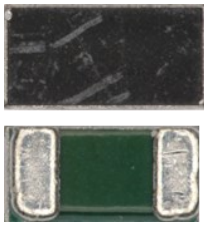
Thin Film Technology Corp.

Product Family: 2-Terminal Low Current Jumper

Part Number Series: LPL01005 Series

RoHS COMPLIANT 2011/65/EU

HF HALOGEN-FREE



Construction:
- Cu metal foil resistive element
- Epoxy-resin overcoat
- Non-wrapped terminations
- 100% matte tin over Ni terminations
- Halogen Free
- RoHS compliant and Pb Free
- Inherently Anti-Sulfur

Features:
- 01005 English case size
- Max current of 1.0A
- Resistance of 35mΩ max
- Low profile of 0.015mm max
- Moisture Sensitivity Level (MSL) = 1

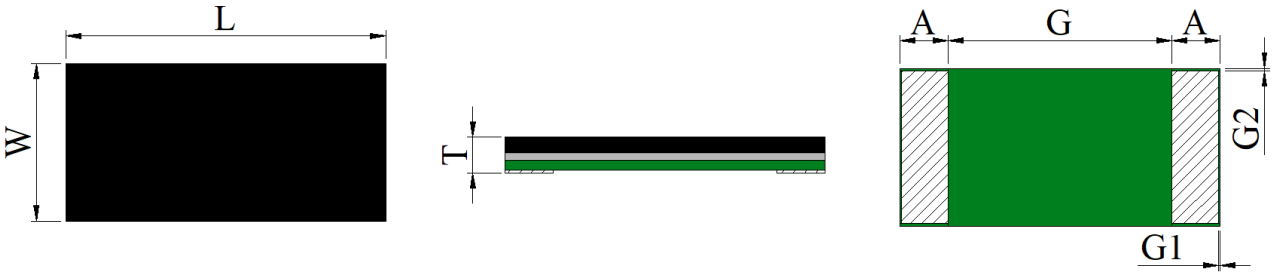
Description:
Our low current, metal foil, jumper chip resistors redefine excellence in electronic connectivity. Crafted with precision, these resistors boast exceptional performance while maintaining an impressively low height profile, making them the perfect solution for space-constrained applications.

Part Numbering: Ex: LPL0100CJUMPF-T20

Series Name	English Size (Metric Size)	Jumper Element	Resistance Value	Internal Code	T&R Packaging Quantity
LPL	**0100*** (0402)	**C** = Cu Alloy	**JUMP** = Jumper, 0Ω	**F** = Face Down	**-T20** = 20,000 pcs/reel

* English case size “01005” is shortened to “0100” for the case size code. See actual dimensions in the product dimensions table.

Product Dimensions:



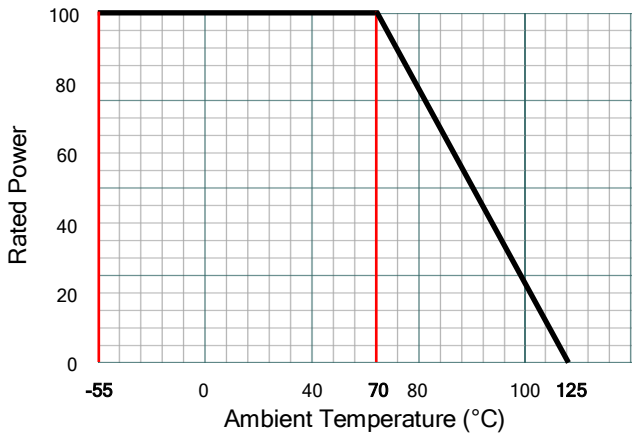
All dimensions shown in inches, mm in parentheses.

Dimension (Metric)	L	W	T	A	G	G1	G2
LPL0100* (0402)	0.016 ±0.001 (0.40 ±0.02)	0.008 ±0.001 (0.20 ±0.02)	0.005 ±0.001 (0.13 ±0.02)	0.004 ±0.001 (0.11 ±0.03)	0.006 ±0.001 (0.15 ±0.03)	Max 0.001 (Max 0.025)	0.001 (Max 0.03)

Electrical Specifications:

Type	LPL0100*
English Size	01005
Metric Size	0402
Resistance	Max 35mΩ
Max Current	1.0A
Operating Temp. Range	-55°C~+125°C
Packaging (code)	20,000pcs/reel (-T20)

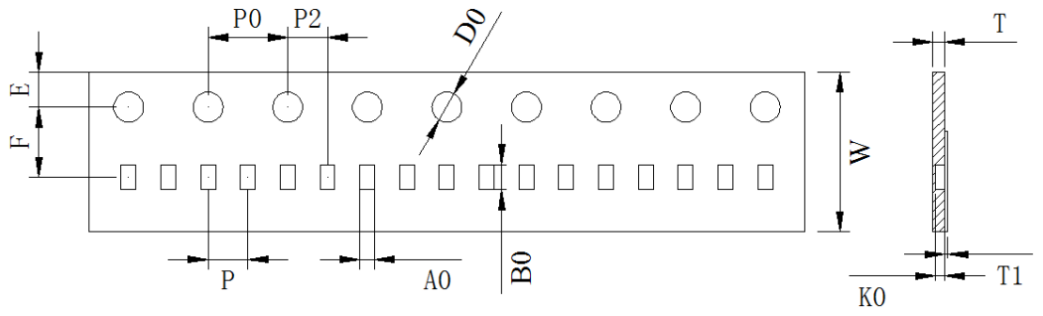
Power Derating Curve:



Reliability Specifications:

Test	Procedure	Specifications
Temperature / Humidity (1) JIS-C-5201-1, 4.24	T=60 ±2ºC ; RH=90~95% ; t=1000h	≤Rmax
Temperature Cycle (1) (Thermal Shock) JESD22-A-104	[-55ºC 30min. → R.T. 3min. → +125ºC 30min. → R.T. 3min], 1000 Cycles	≤Rmax
Load Life at 70ºC JIS-C-5201-1 4.25	Itest = Imax ; T=70±2ºC ;t= 90min ON , 30min OFF,1000h	≤Rmax
Solderability MIL-STD-202, Method 208H	Dip into solder at T = 245±5ºC , t = 3±1sec. Flux activity type RO	The covered area >95%
Resistance To Solder Heat #1 J-STD-020	One reflow cycle according to JEDEC J-STD□020, cool down then parts are immersed into a molten solder bath with a temperature of 260°C for a period of 10 ±1 seconds.	≤Rmax
Resistance To Solder Heat #2 J-STD-020	3 reflow cycles	≤Rmax
Bending IEC60115-1 4.33	Press down 2 mm，Bending time:10±1sec.	≤Rmax
Short Time Overload JIS-C-5201, 4.13	2.5X rated voltage, t = 5sec.	≤Rmax
Terminal Strength AEC-Q200-006	F=1N, t = 60±1sec.	≤Rmax
Endurance MIL-STD-202, Method 108	Itest = Imax, T=70±2ºC,1000h	≤Rmax
HAST	T=121±2 ºC, Pressure: 30 PSIA,t = 48h, No electrical load	≤Rmax
Biased Humidity MIL-STD-202, Method 103	T=60±2ºC ; RH=90~95% ; 10% of rated power, t=1000h	≤Rmax
Vibration MIL-STD-202, Method 204	Frequency: 10 - 2,000Hz, Acceleration: 15G, Test Duration: 20 mins / 12 Cycles	≤Rmax
Mechanical Shock MIL-STD-202, Method 213	Force: 50G, Test Duration: 11 ±1 ms	≤Rmax

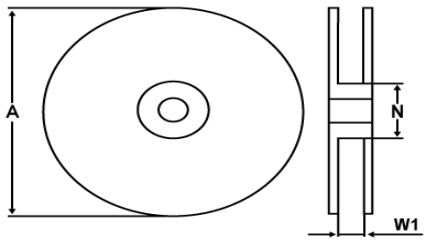
Paper Tape Dimensions:



All dimensions in mm.

Type	W	P0	P	P2	A0	B0	D0	F	E	T	T1	K0
LPL0100	8.00 ±0.10	4.00 ±0.05	4.00 ±0.05	2.00 ±0.05	0.25 ±0.03	0.45 ±0.03	1.55 ±0.05	3.50 ±0.05	1.75 ±0.05	0.31 ±0.03	Max 0.10	0.16 ±0.02

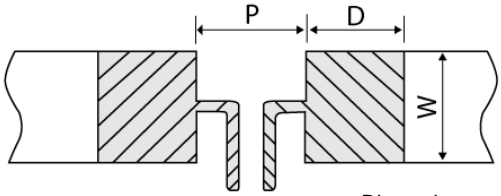
Reel Dimensions:



Dimensions are in mm.

Type	A	N	W1
LPL0100	178 ±5.00	60.0 ±2.00	9.00 ±1.00

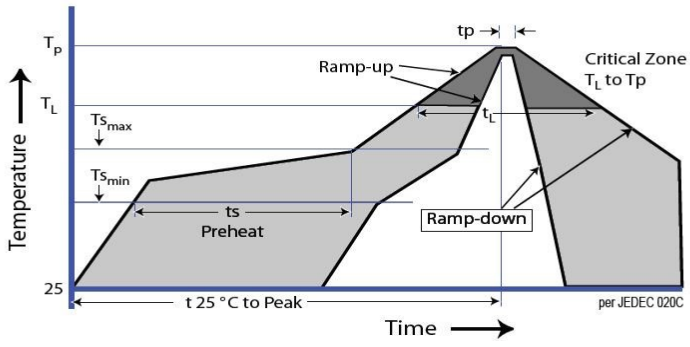
Recommended Land Pattern:



Dimensions are in mm.

Type	P	W	D
LPL0100	0.15	0.30	0.20

Soldering Profile:



Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-Up Rate (Ts_{max} to Tp)	3 °C/second max.	3 °C/second max.
Preheat		
- Temperature Min (Ts_{min})	100 °C	150 °C
- Temperature Max (Ts_{max})	150 °C	200 °C
- Time (ts_{min} to ts_{max})	60-120 seconds	60-180 seconds
Time maintained above:		
- Temperature (T_L)	183 °C	217 °C
- Time (t_L)	60-150 seconds	60-150 seconds
Peak Temperature (T_P)	240 +0/-5 °C	260 +0 °C
Time within 5 °C of actual Peak Temperature (tp)	10-30 seconds	20-40 seconds
Ramp-Down Rate	6 °C/second max.	6 °C/second max.
Time 25 °C to Peak Temperature	6 minutes max.	8 minutes max.

Storage Conditions:

Environment Conditions:

Products should be stored under the following environmental conditions.

- Temperature: +5 to +35°C
- Humidity: 45 to 85% relative humidity
- Do not keep products in environments where they may be subject to particulate contamination or harmful gases such as sulfuric acid or hydrogen chloride as it may cause oxidization on electrodes, resulting in poor solderability.
- Products should be stored in a space that does not expose it to high temperatures, vibration, or direct sunlight.
- Products should be stored in the original airtight packaging until use.