Shielded SMD Power Inductors

RoHS Compliant

Features

- Directly connected electrode on ferrite core
- High power, High saturation inductors
- Ideal inductors for DC/DC converters
- With magnetically shielded against radiation
- Available on tape and reel for automatic surface mounting.

Applications

- Power Supply for VTRs
- LCD Televisions
- Notebook PCs
- Portable Communication
- DC/DC Converters, etc.

Characteristics

- Rated DC current: The current when the inductance becomes 35% lower than its initial value or the actual current when the temperature of coil increases to ΔT=40°C. The smaller one is defined as Rated DC Current. (Ta=25°C)
- Operating temperature range: -40°C to 125°C

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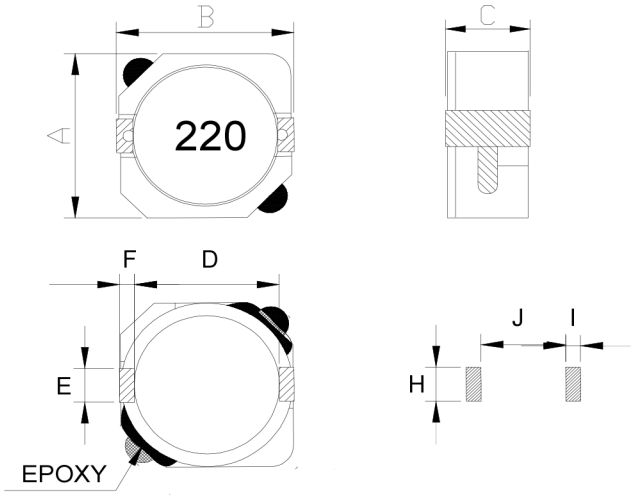
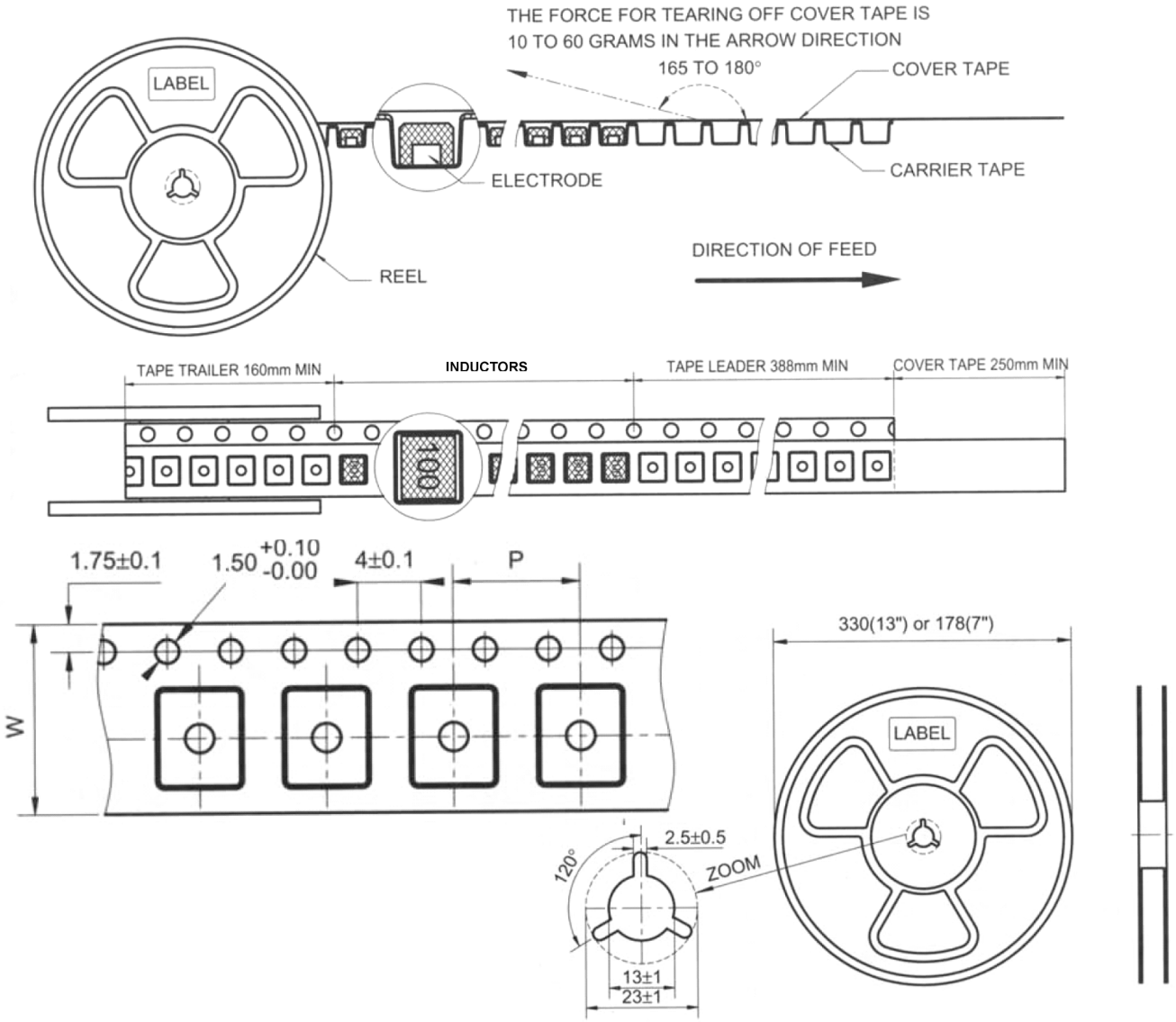


Dimensions

Unit: mm

Case Code	A max.	B max.	C max.	D	E	F	H	I	J
1004	10.3	10.4	4	7.7	3	1.2	3.2	1.6	7.3

Tape and Reel specifications



Unit: mm

Case Code	Tape size		Parts Per Reel
	W	P	13″
1004	24	16	750

SMD Power Inductor Environmental Specifications

General

Items	Specifications
Shelf Storage conditions	Temperature range: 15°C to 28°C ; Humidity: <80% relative humidity. Recommended product should be used within one year from the time of delivery.

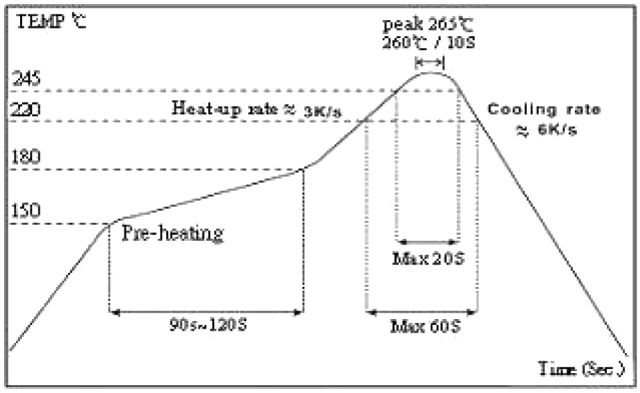
Environmental test

Test Items	Specifications	Test Conditions / Test Methods
High temperature Storage test	No case deformation or change in appearance. ΔL/L≤10%	Temperature 85±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
Low temperature Storage test		Temperature -40±2°C, Time: 48±2 hours, Tested after 1 hour at room temperature.
Humidity test		Temperature 40±2°C, 90% to 95% relative humidity Time: 96±2 hours Tested after 1 hour at room temperature.
Thermal shock test		First -25°C 30 minutes then 25°C 10 minutes last 85°C 30 minutes, as 1 cycle. Go through 5 cycles. Tested after 1 hour at room temperature.

Mechanical test

Test Items	Specifications	Test Conditions / Test Methods
Solderability test	Terminal area must have 90% minimum solder coverage.	Product with Lead-free terminal: Dip pads in flux then dip in solder pot at 245±5°C for 3 seconds.
Resistance to Soldering Heat	No case deformation or change in appearance.	Flux should cover the whole of the sample before heating, then be preheated for about 2 minutes over temperature of 130°C to 150°C. Immersing to 260±5°C for 10 seconds.
Vibration test	No case deformation or change in appearance. ΔL/L≤10%	Apply frequency 10Hz to 55Hz. 1.5mm amplitude in each of perpendicular direction for 2 hours.
Shock resistance		Drop down with 981m/s^2 (100G) shock attitude upon a rubber block method shock testing machine, for 1 time. In each of three orientations.

The condition of reflow (recommendation)



Electrical Characteristics

Part No	Case Code	L (µH)	Tolerance	Test Condition	DCR (mΩ) max.	IDC (A) max.
MP002866	1004	10	20%	100kHz, 0.1V	35	4.4
MP002867		22			73	2.9
MP002868		33			93	2.3
MP002869		47			128	2.1
MP002870		150			506	1.15