Unshielded SMD Power Inductors

RoHS Compliant

Features

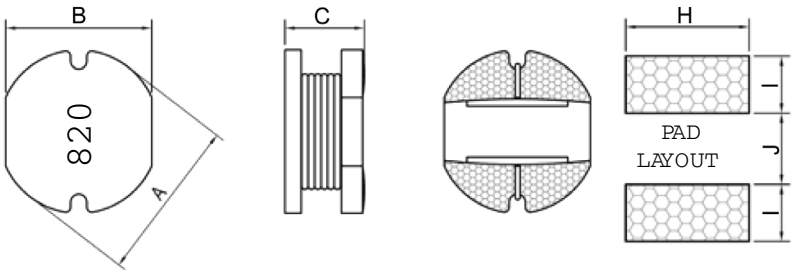
- High power, High saturation inductors
- Silver Plated Type, Low cost design
- Ideal inductors for DC-DC converters
- Available on tape and reel for auto surface mounting

Applications

- Power Supply For VTRs.
- LCD Televisions
- Personal Computers
- Handheld Communication
- DC/DC Converters, etc.

Characteristics

- Rated DC Current: The DC current when the inductance becomes 10% lower than its initial value or DC current when temperature of coil is increased to 40°C. (Ta=25°C).
- The smaller one is defined as Rated DC Current.
- Operating temperature range: -40°C to 125°C



Dimensions

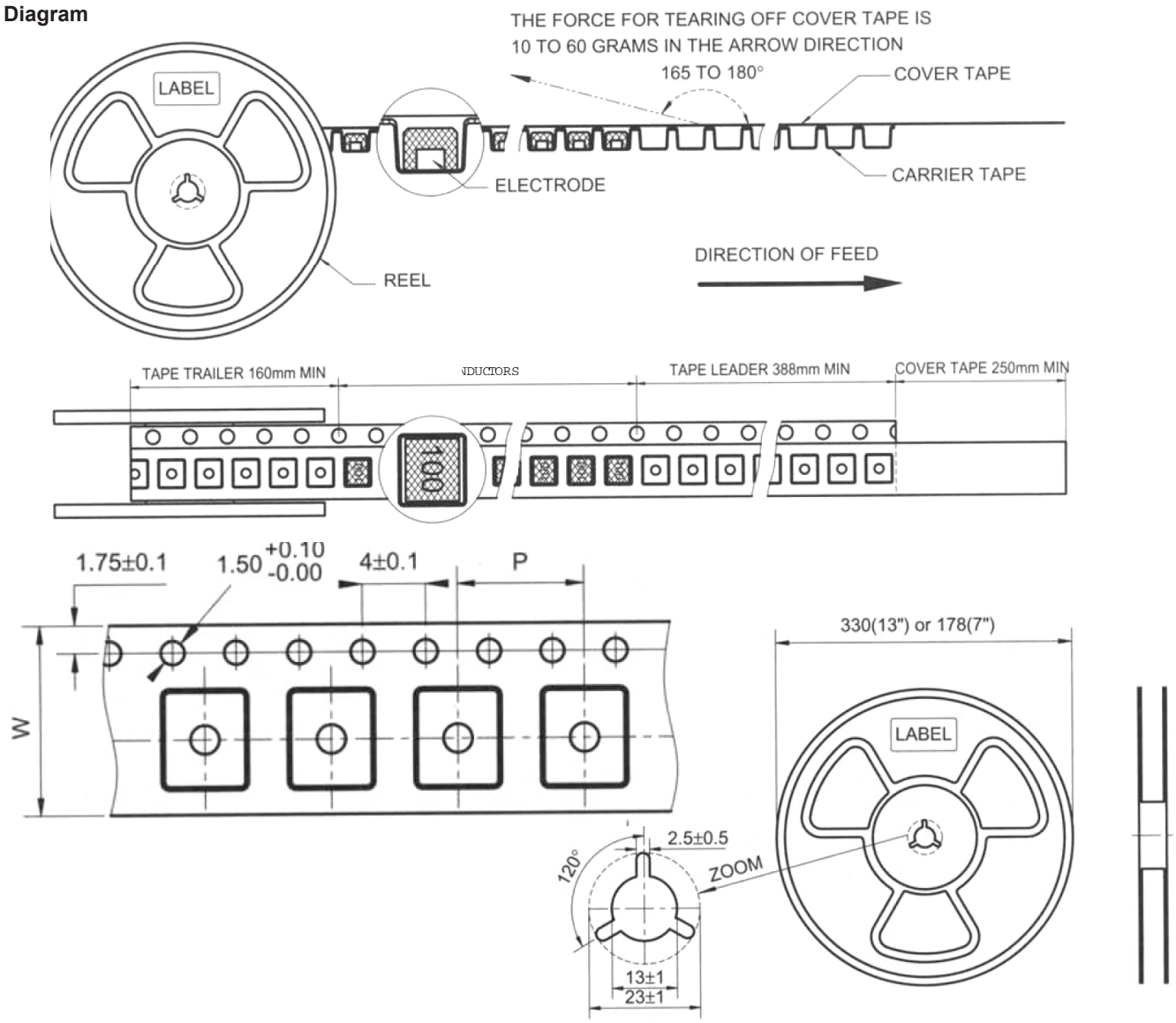
Case Code	A (mm)	B (mm)	C (mm)	H (mm)	I (mm)	J (mm)
0302	3.5±0.3	3±0.3	2.1±0.3	3.5	1.6	0.8
0403	4.5±0.3	4±0.3	3.2±0.3	4.5	1.75	1.5
0504	5.8±0.3	5.2±0.3	4.5±0.3	5.5	2.15	1.7
0703	7.8±0.3	7±0.3	3.5±0.5	7.5	3	2
0705	7.8±0.3	7±0.3	5.0±0.5	7.5	3	2

Electrical Characteristics

Part No	Case Code	L (µH)	Tolerance	Test Condition	DCR (Ω) max.	IDC (A) max.
MP002818	0302	2.2	20%	100kHz, 0.25V	0.085	1.6
MP002819		4.7	20%	100kHz, 0.25V	0.17	1
MP002820		10	20%	1kHz, 0.25V	0.32	0.76
MP002821	0403	2.2	20%	100kHz, 0.25V	0.072	2.25
MP002822		4.7	20%	100kHz, 0.25V	0.109	1.62
MP002823		6.8	20%	100kHz, 0.25V	0.131	1.43
MP002824		27	10%	1kHz, 0.25V	0.522	0.62
MP002825		33	10%	1kHz, 0.25V	0.540	0.56
MP002826	0504	56	10%	1kHz, 0.25V	0.42	0.68
MP002827		100	20%	1kHz, 0.25V	0.7	0.52
MP002828		220	20%	1kHz, 0.25V	1.57	0.35
MP002829		1000	10%	1kHz, 0.25V	5.74	0.26
MP002830	0703	22	10%	1kHz, 0.25V	0.129	1.07
MP002831	0705	10	10%	1kHz, 0.25V	0.07	2.3
MP002832		47	20%	1kHz, 0.25V	0.18	1.1
MP002833		220	10%	1kHz, 0.25V	0.96	0.49

Tape and Reel specifications

Diagram



Unit: mm

Case Code	Tape size		Parts Per Reel
	W	P	13″
0302	12	8	2000
0403	12	8	2000
0504	12	8	1500
0703	16	12	1000
0705	16	12	1000

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.

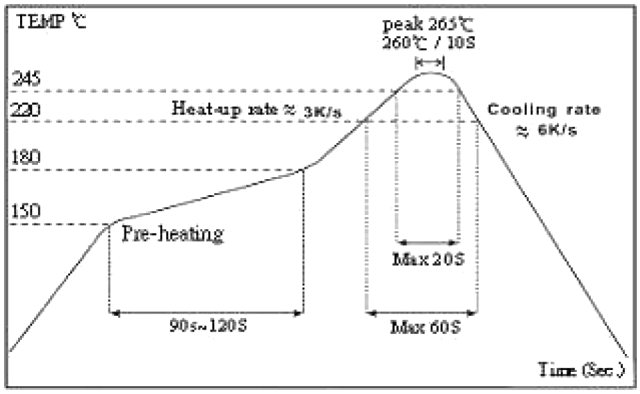
Environmental test

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 -25±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 1hour 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
Solder ability test	Terminal area must have 90% minimum solder coverage.	Dip pads in flux then dip in solder pot (SnCuNi) 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)



Part Number Table

Description	Part Number
SMD Power Inductor, Unshielded, 20%, 2.2uH, 0302	MP002818
SMD Power Inductor, Unshielded, 20%, 4.7uH, 0302	MP002819
SMD Power Inductor, Unshielded, 20%, 10uH, 0302	MP002820
SMD Power Inductor, Unshielded, 20%, 2.2uH, 0403	MP002821
SMD Power Inductor, Unshielded, 20%, 4.7uH, 0403	MP002822
SMD Power Inductor, Unshielded, 20%, 6.8uH, 0403	MP002823
SMD Power Inductor, Unshielded, 10%, 27uH, 0403	MP002824
SMD Power Inductor, Unshielded, 10%, 33uH, 0403	MP002825
SMD Power Inductor, Unshielded, 10%, 56uH, 0504	MP002826
SMD Power Inductor, Unshielded, 20%, 100uH, 0504	MP002827
SMD Power Inductor, Unshielded, 20%, 220uH, 0504	MP002828
SMD Power Inductor, Unshielded, 10%, 1mH, 0504	MP002829
SMD Power Inductor, Unshielded, 10%, 22uH, 0703	MP002830
SMD Power Inductor, Unshielded, 10%, 10uH, 0705	MP002831
SMD Power Inductor, Unshielded, 20%, 47uH, 0705	MP002832
SMD Power Inductor, Unshielded, 10%, 220uH, 0705	MP002833