



Data Sheet

Customer :

Product : SMD Mini Power Inductor - MPE Series

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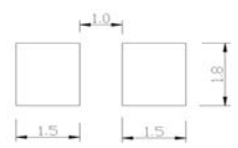
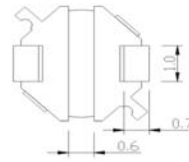
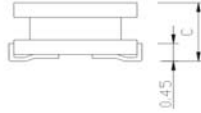
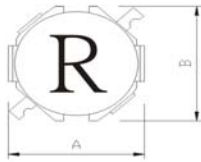
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SMD Mini Power Inductor – MPE Series



Features

- Very low profile
- High current rating up to 1.4 Amps.
- Density design, small size, and low cost

Applications

- Camcorder
- LCD TV
- MP3-Player
- G.P.S , PDA
- Portable CDR-W
- Digital Camera
- DC/DC Converters, etc.

Dimensions

Unit: mm

Type	A	B	C max.
MPE0312	3.2±0.3	3.2±0.3	1.2

Inductance and rated current ranges

- MPE0312 1.0~68μH 1.40~0.17A
- Test equipment:
L: HP4284A LCR meter
DCR: Milli-ohm meter
- Electrical specifications at 25°C

Characteristics

- Rated Current (IDC): The DC current when the inductance becomes 30% lower than its initial value. (Ta=25°C)
- Operating temperature range: -40~+100°C

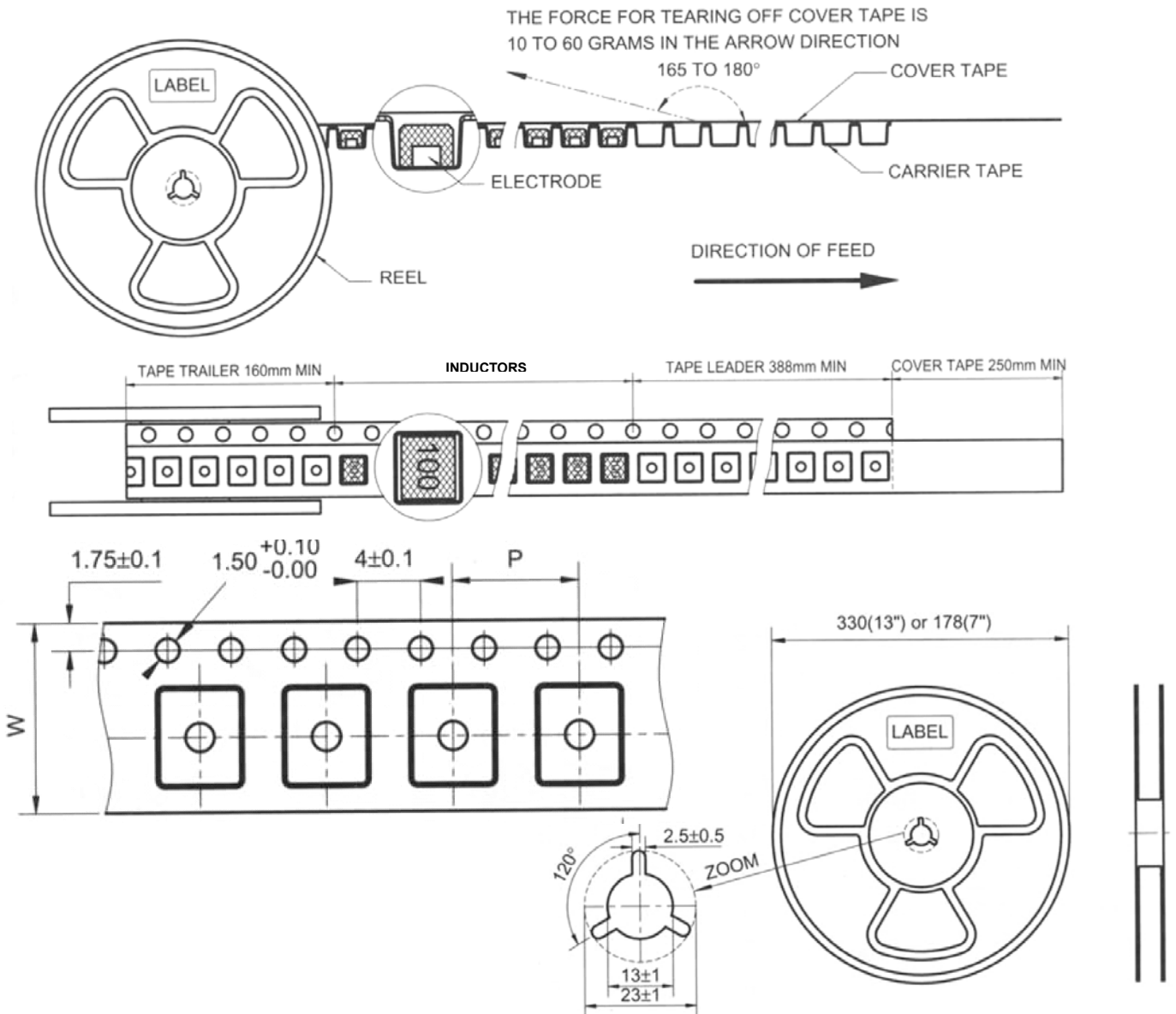
Product Identification

MPE	0312	M	T	101
Product Type	Dimensions (AxBxC) 0312: 3.2x3.2x1.2	Inductor Tolerance M: ±20% N: ±30%	Packaging Style T: Tape and Reel	Inductance 1R1: 1.1μH 470: 47μH 101: 100μH

Electrical Characteristics

Codes	L (μH)	Tolerance	Test Condition	DCR (Ω) ±20%	IDC (A)	Marking
1R0	1.0	N	100KHz, 0.1V	0.08	1.40	A
1R8	1.8	N	100KHz, 0.1V	0.11	1.10	C
2R2	2.2	N	100KHz, 0.1V	0.12	1.00	D
2R7	2.7	N	100KHz, 0.1V	0.15	0.95	E
4R7	4.7	N	100KHz, 0.1V	0.28	0.75	H
5R6	5.6	N	100KHz, 0.1V	0.31	0.68	I
6R8	6.8	N	100KHz, 0.1V	0.36	0.62	K
7R5	7.5	N	100KHz, 0.1V	0.39	0.60	L
100	10	M	100KHz, 0.1V	0.43	0.53	M
150	15	M	100KHz, 0.1V	0.72	0.44	O
220	22	M	100KHz, 0.1V	1.18	0.33	R
330	33	M	100KHz, 0.1V	1.90	0.26	T
470	47	M	100KHz, 0.1V	2.45	0.23	V
680	68	M	100KHz, 0.1V	4.20	0.17	X

■ Tape and Reel specifications



Unit: mm

Type	Tape size		Parts Per Reel
	W	P	7"
MPE0312	12	8	1500

■ SMT Power Inductor Environmental Specifications

General

Items	Specifications
Shelf Storage conditions	Temperature range: 25±3°C; Humidity: <80% relative humidity. Recommended product should be used within six months from the time of delivery.
Storage temperature range	Temperature range: -40°C to +85°C.

Environmental test

Test Items	Specifications	Test Conditions / Test Methods
High temperature Storage test	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Temperature 85±2°C, Time: 48±2 hours, Tested after 1hour at room temperature.
Low temperature Storage test		Temperature -25±2°C, Time: 48±2 hours, Tested after 1hour at room temperature.
Humidity test		Temperature 40±2°C, 90~95% relative humidity Time: 96±2 hours, apply rated current, Tested after 1hour at room temperature.
Thermal shock test		First -25°C 30minutes 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.
Heat endurance of Reflow soldering	No case deformation or change in appearance. $\Delta L/L \leq 10\%$	Refer to the reflow soldering condition. Go through 3 times.
Vibration test		Apply frequency 10~55Hz. 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):

