

## Data Sheet

**Customer:**

**Product:** SMD Power Inductor– SMP Series

**Sizes.:** 404020

**Issued Date:** 14-Sep-23

**Edition:** REV.A2



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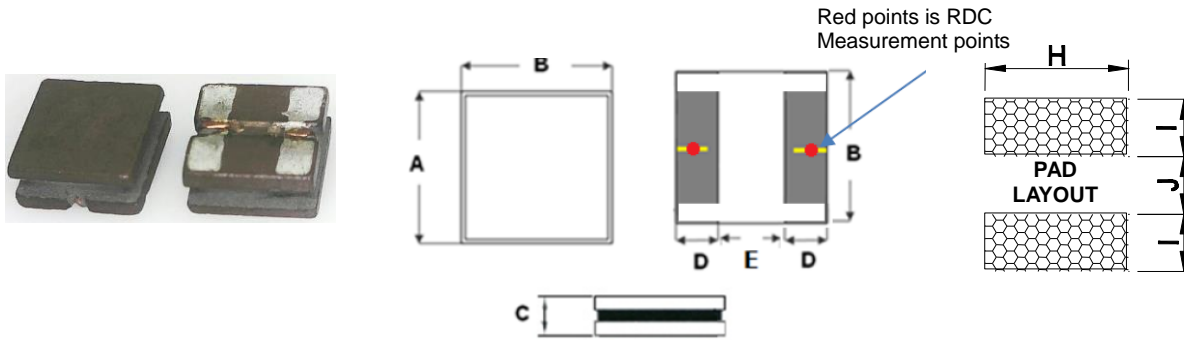
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14-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23	
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**SMD Power Inductor**



**Dimensions**

Unit: mm

Type	A	B	C	D	E	H	I	J
404020	4.0±0.2	4.0±0.2	1.8±0.2	1.2 ref	1.6 ref	4.0	1.2	1.6

**Features**

- Smaller DCR, higher rated current
- Higher voltage insulation level
- Automatic production ensures high quality and consistency

**Inductance and rated current ranges**

- SMP404020      0.33~10μH      16.5~2.8A
- Test equipment:  
L: Microtest6379  
DCR: HP4338B

**Applications**

- LCD Monitor
- Smart Phone

**Characteristics**

- Saturation Rated Current (I sat): The current when the inductance becomes 30% lower than its initial value
- Temperature Rise Current (I rms): The actual current when temperature of coil becomes Δ T40°C. (Ta=25°C)
- Operating temperature range: -40 ~ 150°C (Including self-temperature rise)

**Product Identification**

<b>SMP</b>	<b>404020</b>	<b>A</b>	<b>M</b>	<b>T</b>	<b>R33</b>
Product Type	Dimensions (AxBxC)	Material Code	Inductance Tolerance	Packaging Style	Inductance
	404020: 4.0x4.0x1.8	A: A Material	M: ±20% N: ±30%	T: Tape and Reel	R33: 0.33μH 1R0: 1.0μH 100: 10μH

**Electrical Characteristics**

SMP404020A Type(□: Tolerance):

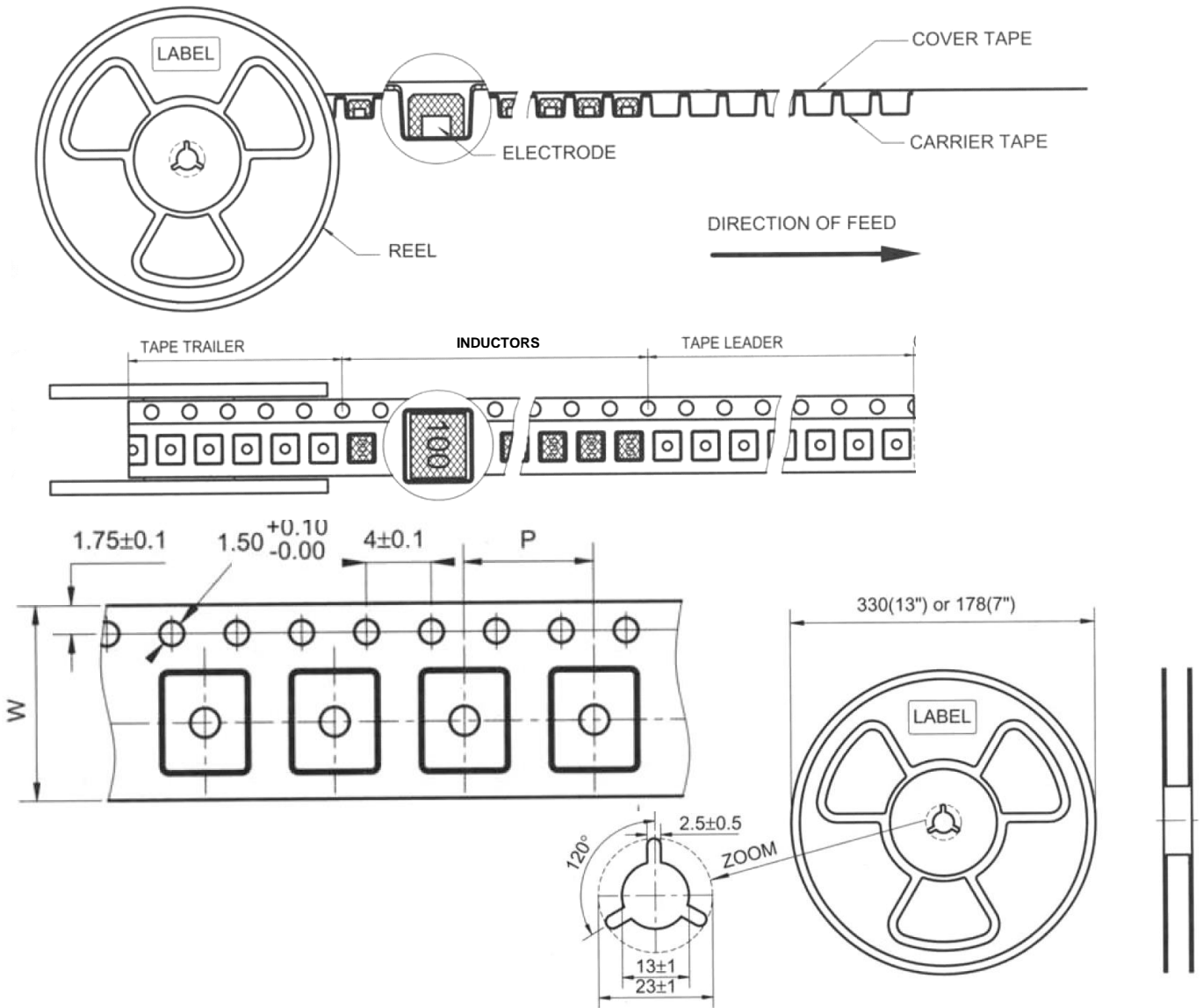
Part No.	L (μH)	Tolerance	Test Condition	DCR (mΩ) max.	I sat (A) typ.	I rms (A) typ.
SMP404020A□TR33	0.33	M, N	100KHz, 1V	8.5	16.5	8.0
SMP404020A□TR47	0.47	M, N	100KHz, 1V	17	12.0	6.0
SMP404020A□T1R0	1.0	M, N	100KHz, 1V	35	7.5	4.5
SMP404020A□T1R5	1.5	M, N	100KHz, 1V	45	6.5	3.8
SMP404020A□T2R2	2.2	M, N	100KHz, 1V	55	5.5	3.5
SMP404020A□T3R3	3.3	M, N	100KHz, 1V	75	4.5	3.0
SMP404020A□T4R7	4.7	M, N	100KHz, 1V	95	3.8	2.3
SMP404020A□T5R6	5.6	M, N	100KHz, 1V	105	3.4	2.0
SMP404020A□T6R8	6.8	M, N	100KHz, 1V	120	3.0	1.6
SMP404020A□T100	10	M, N	100KHz, 1V	200	2.8	2.5

Note: If Use wave soldering is there will be some risk.(Crack · unwitting& Mark Shedding)

Re-flow soldering temperatures below 240°C, there will be unwitting risk.

When total area of exposed wire occurring to each sides is not greater than 75% of coating resin area, that is acceptable.

**■Tape and Reel specifications**



Unit: mm

Type	Tape size		Parts Per Reel
	W	P	13"
404020	12	8	2000

**SMD Power Inductor**

**■ SMD Power Inductor Environmental Specifications**

**Environmental test**

Test Items	Specifications	Test Conditions
High temperature Storage test	No mechanical damage. Inductance: within $\pm 10\%$ of initial value	<b>MIL-STD-202 Method 108</b> 85 $\pm 2^{\circ}\text{C}$ , 500 $\pm 8$ hours Tested after 2~3hours at room temperature.
Low temperature Storage test		<b>JESD22-A119</b> -40 $\pm 2^{\circ}\text{C}$ , 500 $\pm 8$ hours Tested after 2~3hours at room temperature.
Humidity resistance test		<b>MIL-STD-202 Method 103</b> 40 $\pm 2^{\circ}\text{C}$ , 90~95%RH, 500 $\pm 8$ hours Recovery: 2 to 3hrs of recovery under the standard condition after the removal from test chamber.
Humidity test		<b>MIL-STD-202 Method 103</b> 40 $\pm 2^{\circ}\text{C}$ , 90~95%RH, 500 $\pm 8$ hours Tested after 2~3hours at room temperature
Thermal shock test		<b>MIL-STD-202 Method 107</b> -55 $\pm 2^{\circ}\text{C}$ ~ 85 $\pm 5^{\circ}\text{C}$ , 100 cycles. Tested after 2~3 hours at room temperature.

**Mechanical test**

Test Items	Specifications	Test Conditions / Test Methods
Solderability test	Terminal area must have 95% minimum solder coverage.	<b>ANSI / J-STD-002</b> 235 $\pm 5^{\circ}\text{C}$ for 4 $\pm 1$ seconds.
Resistance to Soldering Heat	Inductors shall be no evidence of electrical and mechanical damage Inductance: within $\pm 10\%$ of initial value	<b>MIL-STD-202 Method 210</b> 260 $\pm 5^{\circ}\text{C}$ for 10 $\pm 1$ seconds.
Vibration test	Appearance: Cracking, shipping and any other defects harmful to the characteristics should not be allowed. Impedance: within $\pm 30\%$	<b>MIL-STD-202 Method 204</b> Frequency: 10~55~10 Hz for 15min Amplitude: 1.52mm Directions and times: X, Y, Z directions for 15min. This cycle shall be performed 12times in each of three mutually perpendicular directions (total 9 hours)

■ Storage Temperature: <40°C; Humidity 60%RH

■ Recommended product should be used within one year from the time of delivery.

**The condition of reflow (recommendation)**

