



磁立方

# SPECIFICATION FOR APPROVAL

**CUSTOMER** : \_\_\_\_\_

**CUSTOMER P/N** : \_\_\_\_\_

**DESCRIPTION** : SMD Inductor

**Supplier P/N** : TSEA252012-4R7M

**REVISION NO.** : V1.0

**DATE** : 2021-Jan-14

**NOTES** : STANDARD

Supplier DOCUMENTED	
APPROVED	David
CHECKED	Zhao yun
PREPARED	You yuan

CUSTOMER APPROVAL	

© Company seals

Version:1.0	CUSTOMER P/N		PRODUCT	SMD Inductor
	ITEM P/N	TSEA252012-4R7M	DATE	2021-Jan-14



深圳市磁立方科技有限公司  
ShenZhen Magnetic Cube Technology Co., LTD.

TEL:0755-23018051 E-FAX:0755-22140304 E-MAIL:Sales@mct8.com HTTP:www.mct8.com  
ADD:F2, Building C, Furong Road No.8 , Tantou, Songgang, Baoan District, Shenzhen

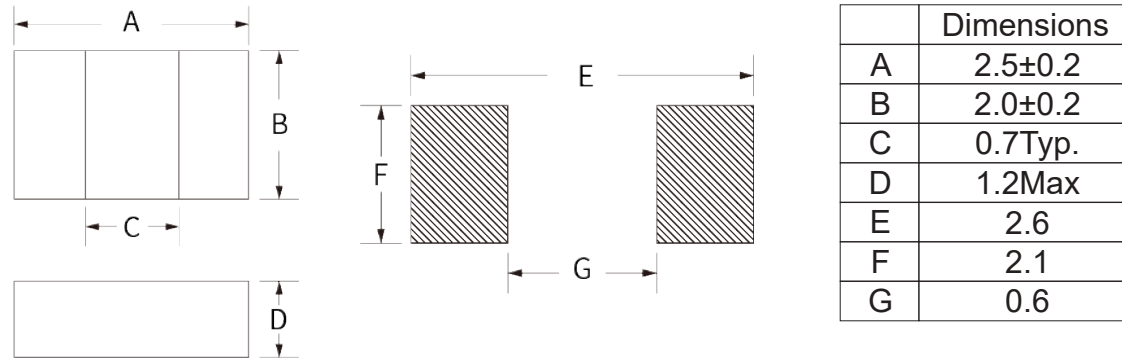


# MAIN SPECIFICATION

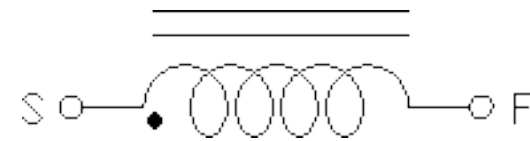
## EXPLANATION OF PART NUMBERS



## PRODUCT DIMENSIONS (mm)



## Schematic:



## ELECTRICAL CHARACTERISTICS

ITEM P/N	@ 25 ± 5°C Ambient Temperature			DCR mΩ @ 25°C Typica	DCR mΩ @ 25°C Max
	INDUCTANCE 1MHz, 0.1V	Typical Heat Rating DC Current (A) (Idc)	Typical Saturation DC Current (A) (Isat)		
	Lo (μH)				
TSEA252012-4R7M	4.7±20%	1.8	2.4	160	190

- ⊙ Initial Inductance (L0) Test Parameters:1MHz,1V,Idc=0.0A,+25°C .
- ⊙ Operating temperature range - 55°C to + 125°C .
- ⊙ IDC(A):DC current (A) that will cause an approximate ΔT of 40°C .
- ⊙ ISAT(A):DC current (A) that will cause L0 to drop approximately 30 %.
- ⊙ The part temperature (ambient + temp rise) should not exceed 125 °C under worst case operating conditions. Circuit design,component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.
- ⊙ The rated current as listed is either the saturation current or the heating current depending on which value is lower.

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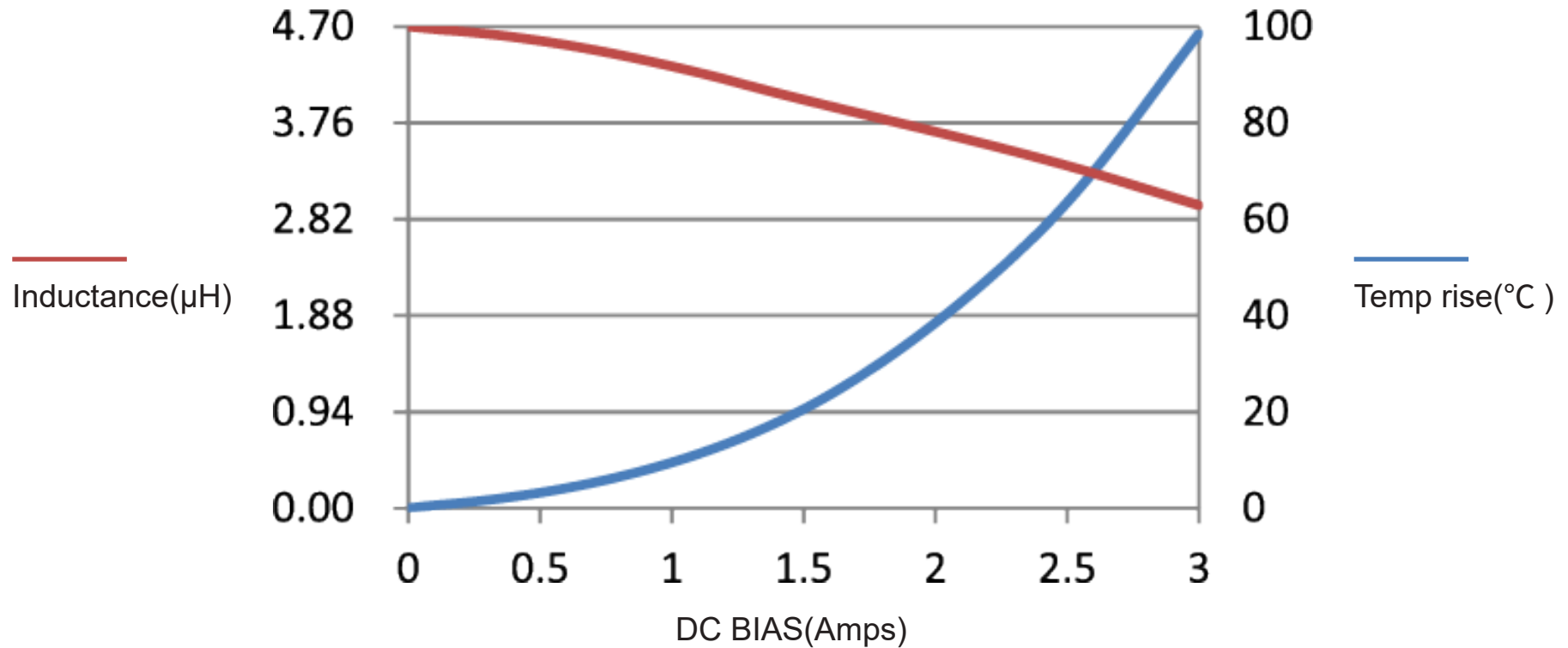
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# CHARACTERISTICS

## INDUCTANCE & TEMPERATURE RISE VS IDC:



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# CHARACTERISTICS

## RECOMMENDED SOLDERING TEMP. GRAPH



A	B	C	D	E
260°C	230°C	10Sec	150°C	60~240Sec

## MECHANICAL RELIABILITY

TEST	Specification & Requirement	Method Used
Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof.
		Preheating: 180 ±10°C 90 seconds
		Soldering: 255 ±5°C for 3 ±1 sec
Shock	Inductance change within ± 5% Without mechanical damage	Drop down with 981m/s <sup>2</sup> (100G) shock
		Attitude upon a rubber block method shock testing machine, 3 tests.
Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz, 60 seconds cycle.
		Vibration time: 2 hours

## ENDURANCE RELIABILITY

TEST	Specification & Requirement	Method Used
Thermal Shock	Inductance change within ± 5% Without mechanical damage	-25°C ,(30 mins) -> room temp. (5 mins) ->125°C , (30 mins) -> room temp. (5 mins)100 cycles
Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85°C ambient Duration: 1000 hrs
Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60°C ambient Humidity: 90~95% Duration: 1000 hrs
Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp -25 ±2 °C for total 1,000 +4/-0 hours
High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp 125±2 °C for total 1,000 +4/-0 hours

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# PACKING INFORMATION

## CARRIER TAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)



TYPE	A	B	C	D	E	F	G
178*8mm	178±1	20±0.8	13±0.5	100±1	2.0±0.5	8.5±0.5	10.5±0.5

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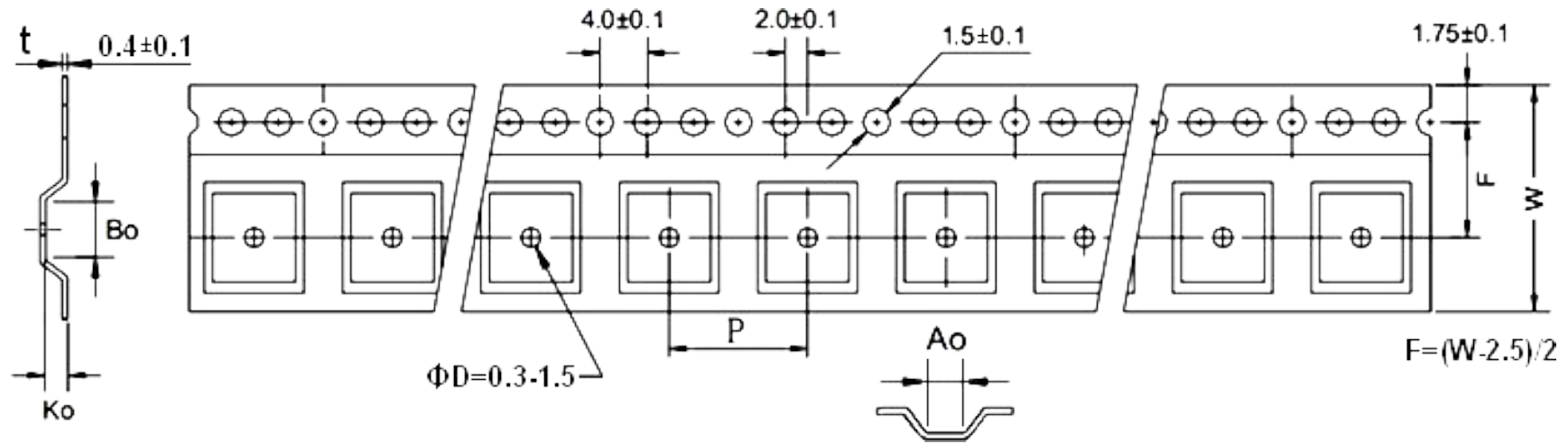
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## CARRIER TAPEING REEL & CARRIER MATERIALS (PAPER PLASTICS) UNIT : (mm)



QTY (Pcs/Reel)	Ao	Bo	Ko	W	P
3000	2.4	2.8	1.4	8	4

Typical Pulling Force: 10~130grams:



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