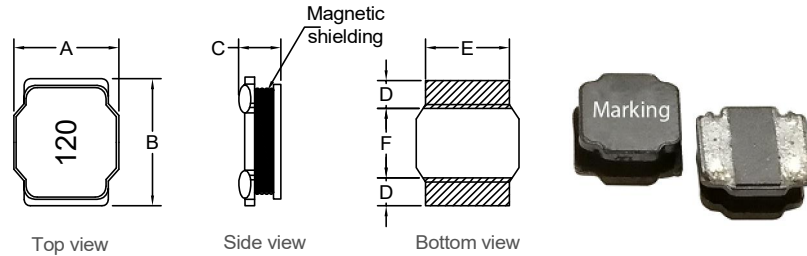


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Outline Dimensions(Unit:mm)



A	B	C	D	E	F
±0.20	±0.20	Max	REF	REF	REF
5.00	5.00	2.00	1.35	4.00	2.50

Recommended Soldering Temperature Graph.



Electrical Schematic



Suggested Pad layout



H	4.30 REF
I	1.75 REF
J	2.00 REF

	Standard Profile	Standard Profile
Pre-heating	150~180°C,90s±30s	
Heating	above 220°C,30s-60s	above 240°C,30s Max
Peak temperature	245°C±3°C	260°C,10s
Cycle of reflow	2 times	2 times

Electrical Characteristics(@25°C)

Inductance 100KHz,0.25V	DC Resistor	Isat (A Max)	Irms (A)ΔT≤40°C
12.0uH±20%	0.182Ω Max	L(1.5A)≥70%*L0A	1.4A

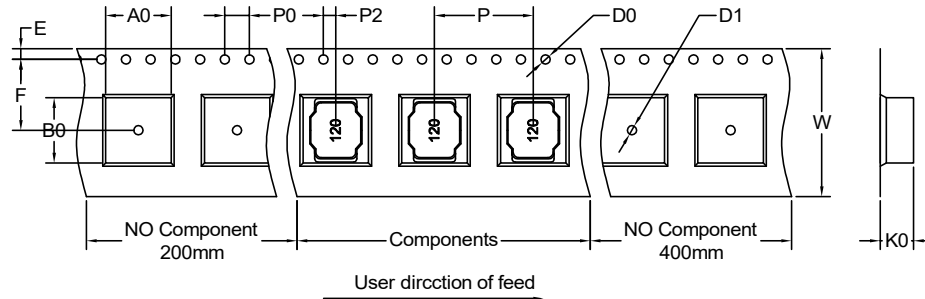
- ***Operating Temperature: -40°C~+125°C (Including temperature Rise)
- ***Storage Temperature: -40°C~+125°C
- ***Storage Humidity:RH10%~70%
- ***Weight:Approx 0.17g.

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Packing Specifications(Unit:mm):



A0	5.30	F	5.50
B0	5.30	D0	1.50
P	8.00	D1	1.50
P0	4.00	K0	2.30
P2	2.00	W	12.0
E	1.75		



Quantity:2000pcs/Reel



Quantity: 2000pcs



PE bag



Outer cases: 20000pcs/box
Insufficient boxes filled with inner boxes or fillers



Inner box
Quantity: 10000 pcs/box

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Unit of measurement: mm

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Approved: Anson. zhan

DRAWING TITLE
SMD POWER INDUCTORS
Material Number: A345020XS240

Customer Name:
Document/Rev: 00
Specification Sheet: 2 of 4
Date of Recognition: Jan./02/2020

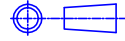
P/N: FASNR5020-120M1R5



Reliability Testing:

Ltem	Specified value	Test methods
High temperature Storage test Reference documents: MIL-STD-202G Method 108A	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$.	Temperature: $85 \pm 2^\circ\text{C}$ Time: 96 ± 2 hours. Tested not less than 1 hour, not more than 2 hours at room temperature. 
Low temperature Storage test. Referencedocuments: IEC 68-2-1A 6.1 6.2	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$.	Temperature: $25 \pm 2^\circ\text{C}$ Time: 96 ± 2 hours. Tested not less than 1 hour, not more than 2 hours at room temperature. 
Humidity test Reference Documents: MIL-STD-202G Method 103B	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$.	1.Dry oven at a temperature of $40^\circ \pm 5^\circ\text{C}$ for 24 hours. 2.Measurements At the end of this period 3.Exposure:Temperature: $40 \pm 2^\circ\text{C}$,Humidity: $93 \pm 3\% \text{RH}$ Time: 96 ± 2 hours. 4.Tested while the specimens are still in the chamber. 5.Tested not less than 1 hour, nor more than 2 hours at room temperature. 
Heat endurance of Reflow soldering	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$.	Preheat: 150°C ,60 second. Solder:Sn/Ag/Cu. Solder:Temperature: $260 \pm 5^\circ\text{C}$. Flux:Rosin flux. Reflow peak time 10 second at 260°C 

Ltem	Specified value	Test methods
Thermal shock test Reference documents: MIL-STD-202G Method 107G	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$. For T:weiges $\leq 28\text{g}$:15 Min 28g \geq weights $\leq 136\text{g}$:30 Min	First- 40°C for T time,next+ 125°C Ttime as 1 cycle. Go through 20 cycles. 
Solderability test Reference documents: MIL-STD-202G Method 208H IPC J-STD-002B	Terminals area must have 95% Min. Solder coverage.	Dip pads in flux then dip in solder pot at $245 \pm 5^\circ\text{C}$ for 5 second. Soler:Sn(93.5)Ag(3.5). Flux:Rosin flux.
Vibration test Reference documents: MIL-STD-202G Method 201A	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$.	Apply frequency 10~55Hz. 0.75mm amplitude in each of perpendicular direction for 2 hours.(total 6 hours). 
Drop test Reference documents: MIL-STD-202G Method 203G	1.No case deformation or change in appearance. 2. $\Delta L/L \leq 10\%$. 3. $\Delta Q/Q \leq 30\%$. 4. $\Delta DCR/DCR \leq 10\%$. For T:weiges $\leq 28\text{g}$:15 Min 28g \geq weights $\leq 136\text{g}$:30 Min	Packaged & Drop down from 1m with 981m/s^2 (100G)attitude in 1 angle 1 ridges & 2 surfaces orientations.
Terminal strength push test Reference documents: JIS C 5321:1997	Pulling test: DEFINE:A:sectional area of terminal $A \leq 8(\text{Sq M})$ $8(\text{Sq M}) < A \leq 20(\text{Sq M})$ Force $\geq 5\text{N}$ time:30sec $8(\text{Sq M}) < A \leq 20(\text{Sq M})$ Force $\geq 10\text{N}$ time:10sec $20(\text{Sq M}) < A$ force $\geq 20\text{N}$ time:10sec Bending test: Soldering the products on PCB,after the pulling testand bending test, terminal should not pull off	Bend the testing PCB at middle point, the deflection shall be 2mm 

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Ltem	Specified value	Test methods
Resistance to solvent test Reference documents: IEC 68-2-45:1993	No case deformation or change in appearance, or obliteration of marking	To dip parts into IPA solvent for 5±0.5Min, then drying them at room temp for 5 Min, at last, to brushing making 10 times.
Electronic characteristic test of major products	Refer to catalogue of specific products	Refer to catalogue of specific products
Overload test Reference documents:	1. During the test no smoke, no peculiar smell, no fire	Apply twice as rated current for 5 minutes.

Recommended solderability temperature profile:



Use rosin-based flux
Don't use high acidic flux with halide content exceeding 0.2(wt)% (chlorine conversion value).
Use lead-free solder, use Sn-3.0Ag-0.5Cu solder
Standard thickness of solder paste: 0.12-0.15mm

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