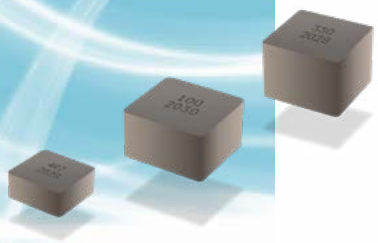
Bourns® Model SRP-CA/FA Series
VISUAL INSPECTION GUIDE



Background

The Bourns® Model SRP-CA and SRP-FA Series Shielded Power Inductors are constructed with a metal alloy powder core mixed with a bonding agent that is processed in a high pressure molding and oven baked environment. It is natural that cracks, chips and other surface imperfections may develop on the core and terminal of the finished product. These surface imperfections may have been caused by friction from the press mold wall when the inductor was released from the molding cavity or thermal expansion of copper wire coil during the bonding agent oven curing process. Not only can surface imperfections develop during the inductor manufacturing process - they may also arise through the inductor's soldering assembly process and during the course of its application, as well.

As a result, Bourns has established a set of guidelines to help identify the severity of various surface conditions and to determine whether the inductor with surface imperfections is in an acceptable condition or if it should be rejected.

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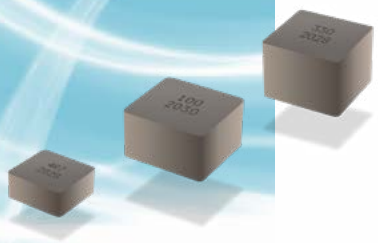
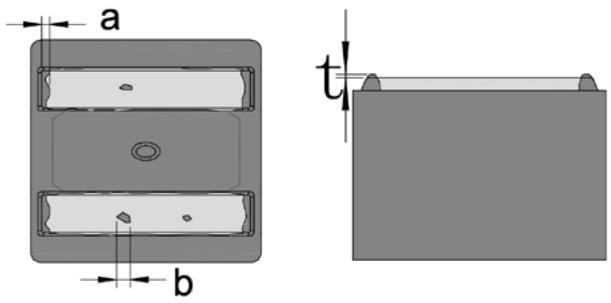


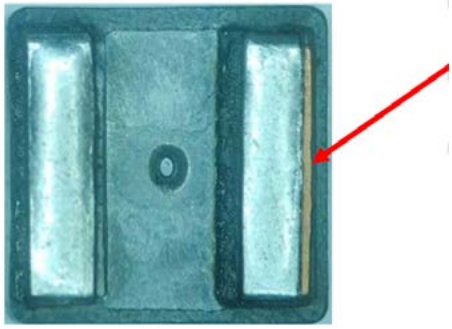
CORE POWDER RESIDUAL

Slight amount of core powder residual on terminal pads is considered to be a normal occurrence within the following parameters.

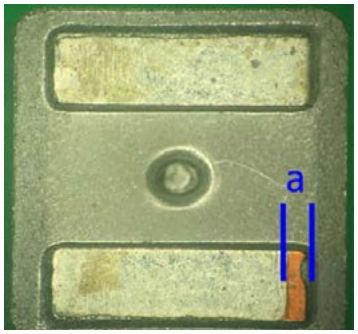


Parameter	Condition of Acceptance
a	10 % maximum length of terminal pad
b	5 % maximum area of terminal pad
t	0.08 mm maximum

EXPOSED COPPER



Along the full edge length of terminal pad: Acceptable



Width "a" dimension no more then 10 % length of terminal pad: Acceptable

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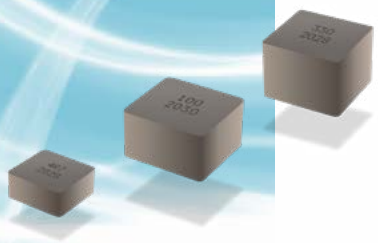
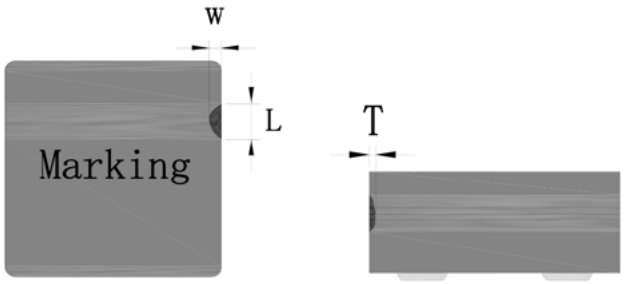


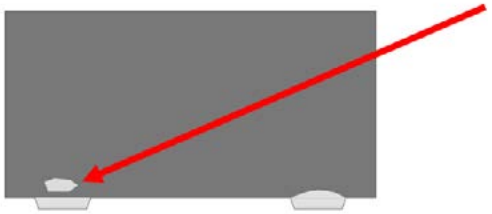
CHIPPING

Slight chipping may occur at the end of the manufacturing process. The acceptance / rejection criteria is subjected to the ratio of chip and product size with guidelines published in IPC-A-610-2017 Standard of Method 9.4, Target Class 1 and 2.



Parameter	Condition of Acceptance*
L	50 % maximum length of inductor body
W	25 % maximum width of inductor body
T	25 % maximum thickness of inductor body

** Each considered separately*



Slightly exposed wire:
Acceptable

SURFACE IMPRINT

Imprint on any surfaces is the result of the high-pressure molding manufacturing process. Brighter surface appearance condition is acceptable.

Lit imprint:
Acceptable

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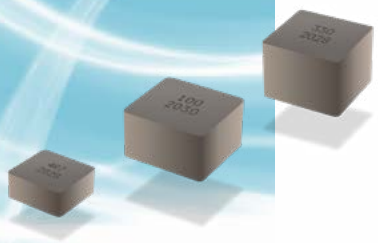


CRACKING

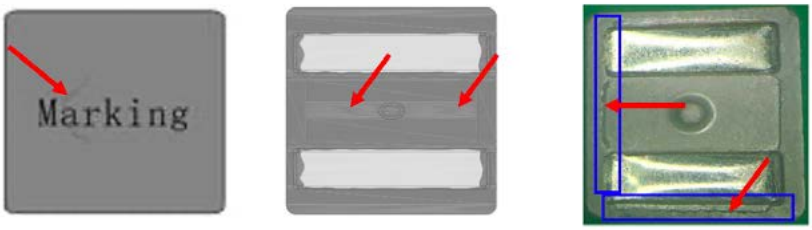
It is natural that cracks may develop on the core surface of the finished inductors. Internal testing indicates that crack more than 0.13 mm wide does not affect the electrical characteristics.

Slightly exposed wire:
Acceptable

Light surface crack (Length ≤ 1/3 of body, width ≤ 0.2mm): Acceptable

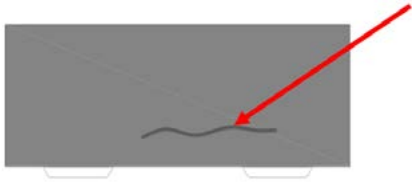
Slight crack occurs because of thermal expansion during the baking process.
These cracks are not obvious through visual inspection. Acceptable.

Crack next to lead wire:
Acceptable



Light surface crack: Acceptable

Severe crack – Extending from side to side:
Reject



Moderate to obvious crack, loosened core powder and exposed wire:
Reject

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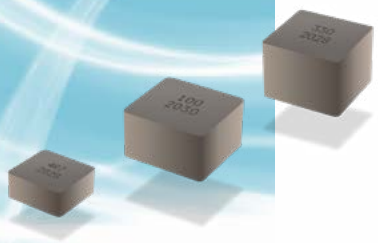

OXIDATION - RUST

Although the inductor surface is treated for corrosion resistance, oxidation may still occur because of the high percentage of iron base core material. Oxidation in small areas of the surface will not affect the performance of the inductor. An affected area up to 25 % of the total inductor surface is acceptable.

It is recommended that customers apply these components in a humidity controlled environment. Basic PCB sealing procedures such as conformal coating are suggested.

Slight oxidation on four sides:
Acceptable

Slight oxidation
on top and bottom:
Acceptable

For more information about Bourns® Shielded Power Inductors, please visit
www.bourns.com

Americas: *Tel* +1-951 781-5500
Email americus@bourns.com

EMEA: *Tel* +36 88 885 877
Email eurocus@bourns.com

Asia-Pacific: *Tel* +886-2 256 241 17
Email asiacus@bourns.com