DOCUMENT CHANGE REQUEST

DCR number 1502	Changes required for: General	Originator: Steve Thacker	
Date: 2022/04/05	Date sent: 2022/04/05	Organisation: ESCC Executive Secretariat	
Status: IMPLEMENTED			

Title:	Resistors Heaters Flexible Single and Double Layer, Follow-up Specification for ESA/SCC Detail		
Number:	4009/002	Issue:	12

Other documents affected:

4009/004-5

Page:

Pages 5 - 7

Paragraph:

Para 1.4.2

Original wording:

Per each current spec issue as above

Proposed wording:

Note: this DCR is a duplicate of already approved DCR1493 submitted by C. Gravina/IRCA RICA on 21/01/2022, that had to be withdrawn due to a system error. It has been raised so that the approved changes per DCR1493 may be implemented.
.....

Changes proposed per original DCR1493:
See DCR attachment: irca_div._rica_dcr_request(3).pdf

i.e.,
Each Variant under the 'Resistance Range Rn' and 'Resistance Tolerance' columns shall be amended as follows:
.....
For 4009/002:
Resistance Range Rn ():
1 Rn < 3
3 Rn 5000

Resistance Tolerance (± %):
5, 10
2, 3, 5, 10
.....
For 4009/004:
Resistance Range Rn ():
1 Rn < 3
3 Rn 10000

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Resistance Tolerance (± %):
5, 10
2, 3, 5, 10
.....

Justification:

Per original DCR1493:
Updating of the tolerance ranges for low ohmic values (<3ohm) to align them with the process limits.

The ohmic value of the heaters is obtained from the etching process, and the result of the ohmic value is influenced by the intrinsic tolerance of the process, by the influence of the raw material: the variance of thickness of the metal foil (the technical sheet issued by the metal foil productors show a tolerance of +/-10%) and the homogeneity of resistivity along the coil.

With the current tolerance range it means that we could have a heater with ohmic value of 1ohm and a tolerance range of +/-2%, so the range of value is between 0,98 and 1,02 ohm, so the range of acceptability is only 0,04 ohm, too strict in relation to the results of the standard production process.

To produce in order to respect this values we need to waste a lot of material and this is not it is not sustainable in this period of poverty of raw materials.

For ohmic value less than 3ohm we would like to set a tolerance rance from +/-5% to +/-10% instead of the current tolerance range (from +/-2% to +/-10%).

Attachments:

irca_div._rica_dcr_request(3).pdf

Modifications:

N/A

Approval signature:

Date signed:

2022-04-05