



## IEC QUALITY ASSESSMENT SYSTEM (IECQ)

covering Electronic Components,  
Assemblies, Related Materials and Processes

For rules and details of the IECQ visit [www.iecq.org](http://www.iecq.org)

### Schedule of Scope to Certificate of Conformity

#### Approved Component - Capability

IECQ Certificate No.: IECQ-C BSI 14.0053

CB Certificate No.: E059/CA

Schedule Number: IECQ-C BSI 14.0053-S

Rev No.: 11

Revision Date: 2017/11/08

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<b>Basic Technology</b>	Thick Film passive and Hybrid Integrated Circuits
<b>Construction:</b>	Alumina Substrate
<b>Resistors:</b>	Ruthenium based, screen printed, laser trimmed
<b>Conductors:</b>	Gold: 5 multilayer on dielectric, 1 on alumina top and reverse Palladium silver: 1 layer on dielectric and alumina
<b>Terminations:</b>	By soldered leadouts
<b>Add on Components</b>	
<b>Types:</b>	Surface Mount Diodes, transistors, LCC's
<b>Assessment Category:</b>	Level K
<b>Packages and Sealing:</b>	Integral substrate / package maximum area 1522 mm <sup>2</sup> Maximum number of leads 20 pin SIL, 40 pin DIL

This schedule is only valid in conjunction with the referenced Certificate of Approval

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BSI, Kitemark Court Davy Avenue Knowlhill Milton Keynes MK5 8PP UK



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#### Boundaries of Capability:

##### Resistors:

<b>Range;</b>	4.44Ω to 4MΩ
10Ω / sq decade. Less than 10Ω	± 0.1Ω
10Ω – 100Ω / sq decades. 10Ω - 100Ω	± 1.0%
100Ω, 1KΩ, 10KΩ, 100KΩ / decades 100Ω to 300KΩ	±0.5%
100KΩ, 1MΩ / sq decades. 300KΩ – 2MΩ	± 1.0%
1MΩ / sq decade. > 2MΩ	± 5.0%
Matching tolerance 13Ω – 130KΩ	± 0.3%
<b>TCR 10ΩΩ / sq decade</b>	± 250ppm/°C
TCR 100Ω, 1KΩ, 10KΩ, 100KΩ / sq decades	± 100ppm/°C
TCR 1MΩ / sq decade	± 250ppm/°C
TCR tracking 130Ω – 130KΩ	± 50ppm/°C
Stability	1% - 5%
Storage Temperature	- 65°C to +150°C
Operating Range	- 55°C to +125°C (-40°C Add on components)
Substrate Power	6.2mW/mm <sup>2</sup> @ +70°C
Screening	Level K, others by agreement with the customer
Customer Participation in Design	Any level by agreement

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BS CECC 63200	Test	Conditions	CQC
4.5.1	Storage at High Temperature	150°C, 168 hours	6,7
4.5.2	Storage at Low Temperature	- 65°C, 168 hours	6,7
4.5.3	Damp Heat; Steady State	56 days, 55°C, 90%RH	6,7
4.5.6	Vibration	78Hz to 2000Hz 196m/s <sup>2</sup>	7
4.5.7	Acceleration	5000g Y1	7
4.5.8	Rapid Change of Temperature	10 cycles 150°C - 65°C	6,7
4.5.10	Solderability	235°C, 2s	6,7
4.5.11	Resistance to Soldering Heat	350°C, 3.5s	6,7
4.5.12	Terminal Robustness	2 bends, 1 direction, 0.5Kgm	6,7
4.5.14	Endurance	2000 hours @ +125°C	6,7
4.5.16	Flammability	10s	7

Note: It may not be possible to achieve all the individual limits of capability in combination.

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