European Space Agency

ESA/SCC 3009 – HiQ RF Capacitors

I. ESA Specifications

Temex Ceramics produces HiQ RF Capacitors according to the following ESA specifications:

- Basic Specification: CECC 32101-007

- Generic Specification: ESA/SCC 3009

- Detail Specification : ESA/SCC 3009/035 and ESA/SCC 3009/036

II. Space Heritage

Syracuse III, ChinaSat 9, EurasiaSat 1, Astra 1K, Columbus, Metop, LLMS, Mars Express, Tadem X, Myriad, CBERS, Yahasat, ArabSat 2, Hotbird 6, GlobalStar II, Galileo…

III. Capacitor Characteristics

Case Size / Designation	*ESA/SCC Specification*	*Testing Level*	*Type Variant*
0505 / CHA	3009035	B C	01 02 05
1111 / CHB	3009036	B C	01 02 05

IV. Termination Characteristics

Type Variant	*Temex Ceramics Designation*	*Composition*
01	P	Silver Palladium
02	T	Silver Palladium Tin / Lead / Silver solder coating
05	W	Nickel Barrier Tin / Lead / Silver solder coating

N.B.: the P termination is recommended for gluing process as it is not compatible with SAC soldering.

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V. Capacitance Values

Value (pF)	Cap. Code	CHA (0505)	CHB (1111)
0.1	0R1	50V	500V
0.5	0R5		
1.0	1R0		
1.2	1R2		
1.5	1R5		
1.8	1R8		
2.2	2R2		
2.7	2R7		
3.3	3R3		
3.9	3R9		
4.7	4R7		
5.6	5R6		
6.8	6R8		
8.2	8R2		
10	100		
12	120		
15	150		
18	180		
22	220		
27	270		
33	330		
39	390		
47	470		
56	560		
68	680		
82	820		
100	101		
110	111		300V
120	121		
150	151		
180	181		
200	201		
220	221		200V
270	271		
330	331		
390	391		
470	471		
510	511		100V
560	561		
620	621		
680	681		50V
820	821		
1 000	102		

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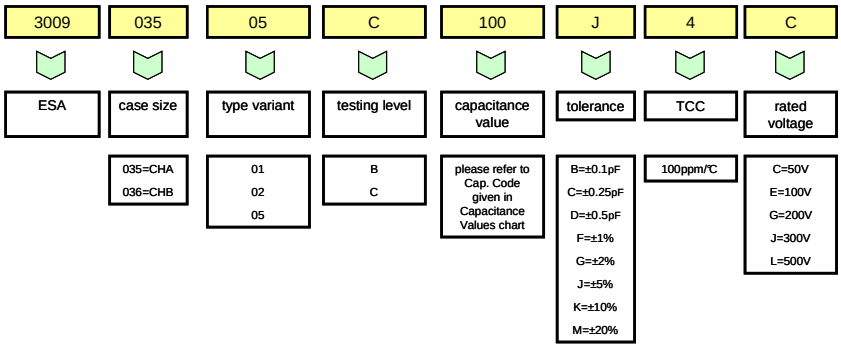
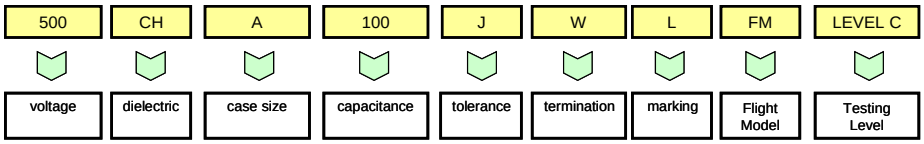
VI. Part Numbering

Special In-Process controls are conducted on every ceramic lot that forms the purchase order prior to any production (microsection examination and steady state humidity 85/85 test).

VI.1. ESA



VI.2. Temex Ceramics



VII. Lot Acceptance Test

Lot Acceptance Level 3 (LA3) tests are designated as the electrical subgroup and comprise electrical measurements of characteristics and tests to prove the assembly capability of the component.

Lot Acceptance Level 2 (LA2) testing shall comprise the tests for LA3 (electrical subgroup) plus tests on an endurance subgroup.

Lot Acceptance Level 1 (LA1) testing shall comprise the tests for LA3 (electrical subgroup) and LA2 (endurance subgroup) plus tests on an environmental and mechanical subgroup.

Lot Acceptance Test	*Number of Extra Flight Models Required*
LAT1	42
LAT2	30
LAT3	10