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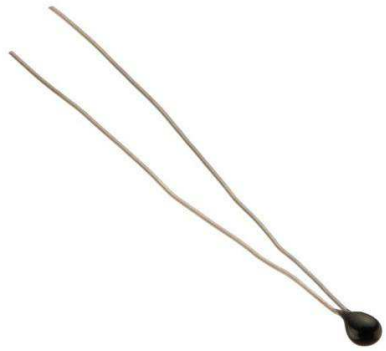

HIGH RELIABILITY EPOXY COATED NTC TEMPERATURE SENSORS FOR SPACE APPLICATIONS

GENERAL DESCRIPTION

Epoxy coated discrete NTC Thermistor chip soldered to 30AWG Tin/Lead (63/37) plated copper wires. The construction is based on TE Connectivity's established ESA Qualified NTC Thermistor probe which has been used in the industry for over 25 years offering proven performance and outstanding reliability.

SPECIFICATION

- Manufacturing and testing based on ESCC (European Space Components Coordination) Generic Specification No. 4006: This specification defines the general requirements for the qualification, procurement and delivery of NTC Thermistors for space applications.
- ESCC Detail Specification No. 4006013: This specification details the ratings, physical and electrical characteristics and test and inspection data. It supplements the requirements of, and shall be read in conjunction with, ESCC Generic Specification No. 4006
- Operating temperatures ranging from -55°C to +115°C
- Storage temperatures ranging from -55°C to +115°C
- 1000Ω to 100KΩ nominal resistances at 25°C

FEATURES

- ESA qualified.
- ESCC Detail Specification
- Epoxy coated.
- 30AWG Tin/Lead (63/37) plated copper wires
- Operating temperature range: -55°C to + 115°C.

APPLICATIONS

- Satellite electric motors
- Monitoring of gearboxes in satellites
- Temperature compensation
- Battery power packs
- Control panel monitoring
- Monitoring of actuators
- Panel temperature measurement

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PRODUCT OVERVIEW

TE Connectivity Flight Model Part Number	ESCC No.	Resistance (Ω) at +25°C	Min Wire Length (mm)	Wire Type	Operating Temperature (°C)
GA100K6A441LEVB	400601307	100000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-25°C to +115°C
GA10K3A739LEVB	400601306	10000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-55°C to +115°C
GA1K3A351	400601301	1000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-55°C to +100°C
GA2K3A352LEVB	400601302	2000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-55°C to +100°C
GA3K3A353LEVB	400601303	3000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-55°C to +115°C
GA4K3A354LEVB	400601304	4000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-55°C to +115°C
GA5K3A355LEVB	400601305	5000	50.8	30AWG Tin/Lead (63/37) plated copper wire	-55°C to +115°C

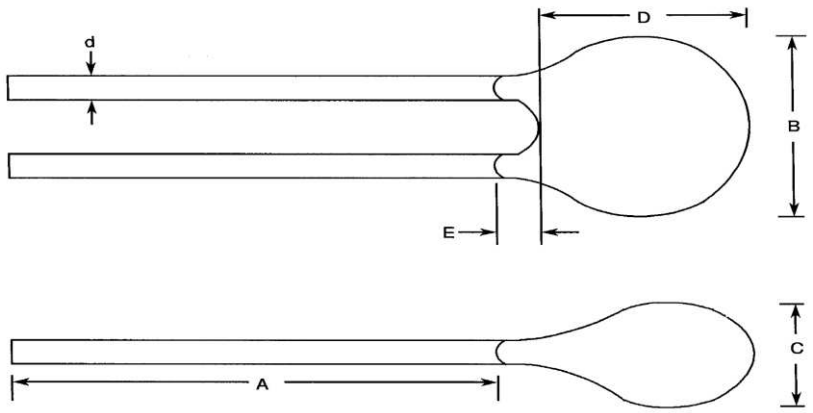
- **Flight Models:** All Flight Model part numbers listed above are qualified to ESCC Generic Specification No. 4006, Chart F2 and Chart F3.
- **Data Report:** A data report including full ESCC Generic Specification No. 4006, Chart F2 and Chart F3 test data is available to order. The orderable Data Report part number is 11016800-00 and the quantity always = 1 per order/batch.

RESISTANCE V TEMPERATURE TABLE

TCPN	GA100K6A441LEVB		GA10K3A739LEVB		GA1K3A351		GA2K3A352LEVB	
ESCC PN	400601307		400601306		400601301		400601302	
Beta (0/50)	4143		3892		3892		3892	
Temperature (°C)	Nominal Resistance (Ω)	Tolerance (±%)	Nominal Resistance (Ω)	Tolerance (±%)	Nominal Resistance (Ω)	Tolerance (±%)	Nominal Resistance (Ω)	Tolerance (±%)
-55	n/a	n/a	959,790	3.7	95,620	3.69	191,239	3.69
-40	n/a	n/a	335,670	2.33	33,512	2.32	67,023	2.32
-25	1,505,530	2.5	130,244	2.1	13,017	2.10	26,034	2.10
0	351,017	1.08	32,650	1.02	3,265	1.02	6,530	1.02
25	**100,000**	**0.93**	**10,000**	**0.88**	**1,000**	**0.88**	**2,000**	**0.88**
75	12,932	0.72	1480	0.76	148	1.13	296	1.13
100	5,574	1.27	678	1.46	67.9	1.46	136	1.46
115	3,525	1.64	444	1.36	n/a	n/a	n/a	n/a

TCPN	GA3K3A353LEVB		GA4K3A354LEVB		GA5K3A355LEVB	
ESCC PN	400601303		400601304		400601305	
Beta (0/50)	3892		3892		3892	
Temperature (°C)	Nominal Resistance (Ω)	Tolerance (±%)	Nominal Resistance (Ω)	Tolerance (±%)	Nominal Resistance (Ω)	Tolerance (±%)
-55	287,937	3.70	383,916	3.7	479,895	3.7
-40	100,701	2.33	134,268	2.33	167,835	2.33
-25	39,073	2.10	52,098	2.1	65,122	2.1
0	9,795	1.02	13,060	1.02	16,325	1.02
25	**3,000**	**0.88**	**4,000**	**0.88**	**5,000**	**0.88**
75	444	1.16	592	1.16	740	1.16
100	203.6	1.46	271.4	1.46	339	1.46
115	133.3	1.36	177.8	1.36	222	1.36

ASSEMBLY DRAWING



TE Connectivity Part Number	ESCC No.	Dimension A (mm)	Dimension B (mm)	Dimension C (mm)	Dimension D (mm)	Dimension d (mm)	Dimension E (mm)
GA100K6A441LEVB	400601307	50.8 Min	2.0 Max	2.0 Max	3.50 Max	0.23-0.28	1.6 Max
GA10K3A739LEVB	400601306	50.8 Min	2.54 Max	2.54 Max	3.50 Max	0.23-0.28	1.6 Max
GA1K3A351	400601301	50.8 Min	4.87 Max	4.87 Max	6.35 Max	0.23-0.28	2.0 Max
GA2K3A352LEVB	400601302	50.8 Min	3.43 Max	3.43 Max	4.40 Max	0.23-0.28	2.0 Max
GA3K3A353LEVB	400601303	50.8 Min	2.81 Max	2.81 Max	3.68 Max	0.23-0.28	1.6 Max
GA4K3A354LEVB	400601304	50.8 Min	2.54 Max	2.54 Max	3.50 Max	0.23-0.28	1.6 Max
GA5K3A355LEVB	400601305	50.8 Min	2.54 Max	2.54 Max	3.50 Max	0.23-0.28	1.6 Max

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