DOCUMENT CHANGE REQUEST

DCR number 392	Changes required for: N/A	Originator: JUDE NEYLON
Date: 2008/02/28	Date sent: 2007/11/21	Organisation: Enterprise Ireland
Status: IMPLEMENTED		

Title:	Thermistors (thermally Sensitive Resistors) Range 2000 to 100000 Ohms at +25C with a		
Number:	4006/014	Issue:	5

Other documents affected:

Page:

Pages: 1,5,6,7,8,12, 17
Paragraphs: Specification Title; para.1.1; Table 1(a); Note 3 to Table 1(b); Table of Figure 2; Table 2; Appendix A.

Paragraph:

Pages: 1,5,6,7,8,12, 17
Paragraphs: Specification Title; para.1.1; Table 1(a); Note 3 to Table 1(b); Table of Figure 2; Table 2; Appendix A.

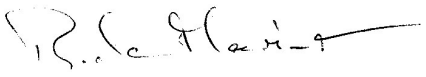
Original wording:

Proposed wording:

SEE ATTACHED FILE

Justification:

TO MEET CUSTOMER DEMAND FOR A 100K SURFACE PROBE.

Attachments:
DCR_Var_12.DOC, DCRVar12.pdf, null
Modifications:
there is another copy of DCR 392 which has been signed. this one is corrupt. See below DCRxxx.pdf.
Approval signature:

Date signed:
2008-02-28

DOCUMENT CHANGE REQUEST

European Space Components Coordination

TO BE COMPLETED BY ORIGINATOR

Originator (1)	**Originator signature** (2)	**NSA or ESA representative signature** (3)	**Change request No.** (4)
Jude Neylon **Affiliation** Betatherm Ireland Ltd.	Date:26th October 2007	Date: 7 November 2007	Page 1 of [4] (5)

DOCUMENT AFFECTED

Doc. No. (6)	**Status** (7)	**Title** (8)
4006/014	Issue 5 July 2007	THERMISTORS (THERMALLY SENSITIVE RESISTORS), NCT, RANGE 2 000 TO 15 000 OHMS AT + 25^{O}C WITH A TEMPERATURE RANGE OF – 60 TO + 160 ^{O}C

Other documents affected (10)

NONE

Paragraph(s) and page(s) affected (9)

Pages: 1,5,6,7,8,12, 17

Paragraphs: Specification Title; para.1.1; Table 1(a); Note 3 to Table 1(b); Table of Figure 2; Table 2; Appendix A.

PROPOSED WORDING OF CHANGE (11)

SEE ATTACHED PAGES

Continuation sheet(s) attached: [x] Yes [ ] No

JUSTIFICATION (12)

SEE ATTACHED PAGES

Continuation sheet(s) attached: [x] Yes [ ] No

Changes required for: Procurement (project) [x] Qualification [ ] MRB decision [ ] (13)

General Improvement of Spec. [ ] Other [ ]

RESERVED FOR USE BY SCC SECRETARIAT

Date of registration	**Order of priority for Appr. / Impl.:** 1 (high) 2 (medium) 3 (low)
Attachments	**Qualification status:** Qualified In process of qualification

RESERVED FOR USE BY APPROVING AUTHORITY

Approved	**Date and signature**	**Reference to SCCG decision**
[ ] Yes [ ] No Priority [ ]		

Approved wording, if different from box 11 or reason for rejection (14)

Continuation sheet(s) attached: [ ] Yes [ ] No

DOCUMENT CHANGE REQUEST

CONTINUATION SHEET FOR BOX [ ]

Change request No.)

CHANGE: Page 1 - Title

from "…RANGE 2000 TO 15000 OHMS AT + 25℃ WITH…"
to "… RANGE 2000 TO 100000 OHMS AT + 25℃ WITH…"

from "…BASED ON TYPE G15K4D489, G10K4D453 , G2K7D411 , G4K7D421"
to "…BASED ON TYPE G15K4D489, G10K4D453 , G2K7D411 , G4K7D421 , G100K6D487"

JUSTIFICATION:
The new variant 12 (based on Type G100K6D487) has been developed to meet current customer demand. The construction is similar to the previous ESCC 400601405B Issue 4, July 2005. The main difference is that the glass bead coating and wire type / ferrule are the same as the qualified part ESCC 400601408B Issue 5, July 2006. (G15K4D489).

CHANGE: Page 5 Paragraph 1.1

from "…Range 2000 to 15000 OHMS at + 25℃ with…"
to "…Range 2000 to 100000 OHMS at + 25℃ with…"

from " …based on type G15K4D489, G10K4D453 , G2K7D411 , G4K7D421."
to "…based on type G15K4D489, G10K4D453 , G2K7D411 , G4K7D421 , G100K6D487."

JUSTIFICATION:
The new variant 12 (based on Type G100K6D487) has been developed to meet current customer demand. The construction is similar to the previous ESCC 400601405B Issue 4, July 2005. The main difference is that the glass bead coating and wire type / ferrule are the same as the qualified part ESCC 400601408B Issue 5, July 2006. (G15K4D489).

CHANGE:
Page 6 Table 1(a) Add variant 12 to Table, giving resistance values and appropriate resistance tolerances at temperatures +25℃; +100℃; +125℃; + 140℃:+160℃ . The insertion is as follows:

VARIANT	BASED ON TYPE	R_Z	RESISTANCE/TEMPERATURE CHARACTERISTICS (NOTE 3)										
			-60 °C	-40 °C	-20 °C	0 °C	+25°C	+50°C	+70°C	+100°C	+125°C	+140°C	+160°C
12	G100K6D487	NOM (Ω)	--	--	--	---	100000	--	---	5574	2642.4	1756.3	1059.0
		TOL (±%)					1.75			1.11	1.41	1.32	1.21

JUSTIFICATION:
The new variant 12 (based on Type G100K6D487) has been developed to meet current customer demand. The construction is similar to the previous ESCC 400601405B Issue 4, July 2005. The main difference is that the glass bead coating and wire type / ferrule are the same as the qualified part ESCC 400601408B Issue 5, July 2006. (G15K4D489). The tolerances from +100℃ to +160℃ a re achievable as the Betatherm ceramic curve for this product is equivalent to the Fenwal curve on which these specification tolerances were based.

CHANGE:

Page 7 Table 1(b) Change Note 3 **from** " – 40^{O}C for Variants 10, 11 and – 60^{O}C for Variant 08 and 09 to the Maximum Operating Temperature specified in Column 4 of Table 1(a)" **to** " – 40^{O}C for Variants 10, 11, 12; and – 60^{O}C for Variants 08 and 09 to the Maximum Operating Temperature specified in Column 4 of Table 1(a)"

JUSTIFICATION:
To include the storage temperature range of the new Variant 12.

CHANGE: Change Page 8,Table of Figure 2, **from**

SYMBOL	MILLIMETRES					
	VARIANT 08		VARIANT , 09		VARIANT 10,11	
	MIN	MAX	MIN	MAX	MIN	MAX
A	356	406	500	550	280	330
B	6.1	6.6	6.1	6.6	6.1	6.6
C	-	2.4	-	2.8	-	2.8
D	-	9.8	-	9.8	-	9.8
E	0.33	0.48	0.33	0.48	0.33	0.48
F	-	50	-	50	-	50
G	50	80	50	80	50	80

to

SYMBOL	MILLIMETRES					
	VARIANT 08		VARIANT , 09		VARIANT 10,11,12	
	MIN	MAX	MIN	MAX	MIN	MAX
A	356	406	500	550	280	330
B	6.1	6.6	6.1	6.6	6.1	6.6
C	-	2.4	-	2.8	-	2.8
D	-	9.8	-	9.8	-	9.8
E	0.33	0.48	0.33	0.48	0.33	0.48
F	-	50	-	50	-	50
G	50	80	50	80	50	80

JUSTIFICATION:
To include physical dimensions for the new Variant 12.

CHANGE:
Page 12, Table 2, No. 3 change **from**

3	Thermal Time Constant Variant 08 Variants 09,10,11	KH	Para. 9.3.1.3 T_{amb} = +25 ± 1^{0}C In Still Air Note 3	 - -	 25 40	sec.

to

3	Thermal Time Constant Variants 08 Variants 09,10,11,12	KH	Para. 9.3.1.3 T_{amb} = +25 ± 1^{0}C In Still Air Note 3	 - -	 25 40	sec.

JUSTIFICATION:
To include the Thermal Time Constant characteristic of the new Variant 12.

CHANGE:
Page 17, Appendix 'A'; AGREED DEVIATIONS FOR BETATHERM (IRELAND), for all three "ITEMS AFFECTED" – Para. 9.2 Thermal Shock; Para. 7.4/7.4.1 Check for Lot Failure/Lot Failure during 100% Testing; and Para. 9.14.2 Operating Life during Lot Acceptance Testing.

change **from** "For Variants 08, 09, 10, 11……." **to** "For Variants 08, 09, 10, 11, 12……."

JUSTIFICATION:
To apply the current agreed deviations for Betatherm Ireland to the new Variant 12.