



## DOCUMENT CHANGE REQUEST

DCR number 612 Changes required for: General

Originator: S Jeffery

Date: 2010/05/26

Date sent: 2010/05/26

Organisation: ESA/ESTEC

Status: IMPLEMENTED

Title: HCMOS Analogue Multiplexer/Demultiplexer, based on type 54HC4051

Number: 9408/064

Issue: 2

Other documents affected:

Page:

Paragraphs 2.3.1, 2.3.2, 2.3.3 and Appendix A.

Paragraph:

Paragraphs 2.3.1, 2.3.2, 2.3.3 and Appendix A.

Original wording:

Proposed wording:

Paras. 2.3.1 and 2.3.2, Characteristic "Channel ON Resistance Matching 1", delete the following from the Test Conditions:

VIL=0V, VIH=3.15V  
VDD=4.5V, VSS=VEE=0V

Paras. 2.3.1 and 2.3.2, Characteristic "Channel ON Resistance Matching 2", delete the following from the Test Conditions:

VIL=0V, VIH=4.2V  
VDD=6V, VSS=VEE=0V

Para. 2.3.3, Note 4, add the following under "RON2 shall be tested with VIN(CH or COM)=1V, 3V and 5V" (as a separate item, i.e. not part of "d"):

"Channel ON Resistance Matching shall be calculated as follows:

The results of the Channel ON Resistance measurements of each Channel's Input/Output to the Common Output/Input, and reverse, shall be compared and shall not exceed the specified Limits."

Appendix 'A', add "The Channel ON Resistance Matching (1 and 2) calculations are not performed." as the first of the agreed "Deviations from High and Low Temperatures Electrical Measurements" and "Deviations from Room Temperature Electrical Measurements".



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Justification:

The proposed changes will clarify the Channel ON Resistance Matching tests and will also make it clear that STMicroelectronics do not perform the Channel ON Resistance Matching calculations.

Attachments:

N/A

Modifications:

STMicroelectronics' test programme does not include Channel ON Resistance Matching. The matching test was never implemented prior to ESCC because Note 2 of the original (i.e. ESA/SCC) Detail Spec stated "...the maximum limits given below are guaranteed."

However, STMicroelectronics' engineering team performed the Channel ON Resistance Matching calculations (using the results of the Channel ON Resistance test) as part of Qualification Testing. These results showed that the Channel ON Resistance Matching was <10 Ohms, well within the spec limit of  $\pm 20$  Ohms maximum.

Approval signature:

Date signed:

2010-05-26