DOCUMENT CHANGE REQUEST

DCR number 126	Changes required for: General	Originator: S Thacker
Date: 2004/06/15	Date sent: 2004/06/15	Organisation: ESA/ESTEC
Status: IMPLEMENTED		

Title:	CMOS Analogue Multiplexer/Demultiplexer, based on type 4051B		
Number:	9202/047	Issue:	2

Other documents affected:

Page:

Para 2.3.1 Room Temperature Electrical Measurements - page 17, 18
Para 2.3.3 Notes to Electrical Measurement Tables - page 23

Paragraph:

Para 2.3.1 Room Temperature Electrical Measurements - page 17, 18
Para 2.3.3 Notes to Electrical Measurement Tables - page 23

Original wording:

Proposed wording:

tPLH2 & tPHL2 amended as per attached mark-up sheets.
Other timing parameters renamed as per mark-up sheets

Justification:

tPLH2 & tPHL2 were incorrctly specified

Attachments:

DCR_9202047_markup.pdf, null

Modifications:

N/A

Approval signature:

Date signed:

2004-06-15

MARK-UP FOR DCR.
S.T.
15.6.2004

Pages 1 to 28

INTEGRATED CIRCUITS, SILICON MONOLITHIC, CMOS

ANALOGUE MULTIPLEXER/DEMULTIPLEXER

(SINGLE 8-CHANNEL)

BASED ON TYPE 4051B

ESCC Detail Specification No. 9202/047

Issue ~~1~~ 3	~~April~~ June 2004

Document Custodian: European Space Agency - see https://escies.org

Characteristics	Symbols	MIL-STD-883 Test Method	Test Conditions Note 1	Limits		Units
				Min	Max	
Input Clamp Voltage 2, to V_{DD}, Control Inputs	V_{IC2}	-	V_{IN} (Under Test)=6V R=30kΩ, V_{SS}=Open All Other Pins Open Note 6	3	-	V
Input Capacitance, Control Inputs	C_{IN}	3012	V_{IN} (Not Under Test)=0V V_{DD}= V_{SS}=V_{EE}=0V f = 100 kHz to 1 MHz Note 7	-	7.5	pF
Channel Capacitance, CHn	C_{CH}	3012	V_{IN} (Not Under Test)=0V V_{DD}= V_{SS}=V_{EE}=0V f = 100 kHz to 1 MHz Note 7	-	7.5	pF
Channel Capacitance, COM	C_{COM}	3012	V_{IN} (Not Under Test)=0V V_{DD}= V_{SS}=V_{EE}=0V f = 100 kHz to 1 MHz Note 7	-	7.5	pF
Propagation Delay Low to High ~~X~~ COM to CH0	t_{PLH}~~X~~	3003	V_{IN}(COM)=Pulse Generator V_{IN} (Remaining Inputs)=Truth Table V_{IL}=0V, V_{IH}=5V, R_L=200kΩ V_{DD}=5V, V_{SS}=V_{EE}=0V Note 8	-	40	ns
Propagation Delay High to Low ~~X~~ COM to CH0	t_{PHL}~~X~~	3003	V_{IN}(COM)=Pulse Generator V_{IN} (Remaining Inputs)=Truth Table V_{IL}=0V, V_{IH}=5V, R_L=200kΩ V_{DD}=5V, V_{SS}=V_{EE}=0V Note 8	-	40	ns
~~Propagation Delay Low to High 2~~, A to COM ~~(Channel ON)~~	~~t_{PLH2}~~ t_{PZH1}	3003	V_{IN}(A)=Pulse Generator V_{IN} (Remaining Inputs)=Truth Table V_{IL}=0V, V_{IH}=5V, V_{IN}(CH)=~~0V and~~ 5V and Open R_L=10kΩ V_{DD}=5V, V_{SS}=V_{EE}=0V Note 8	-	670	ns

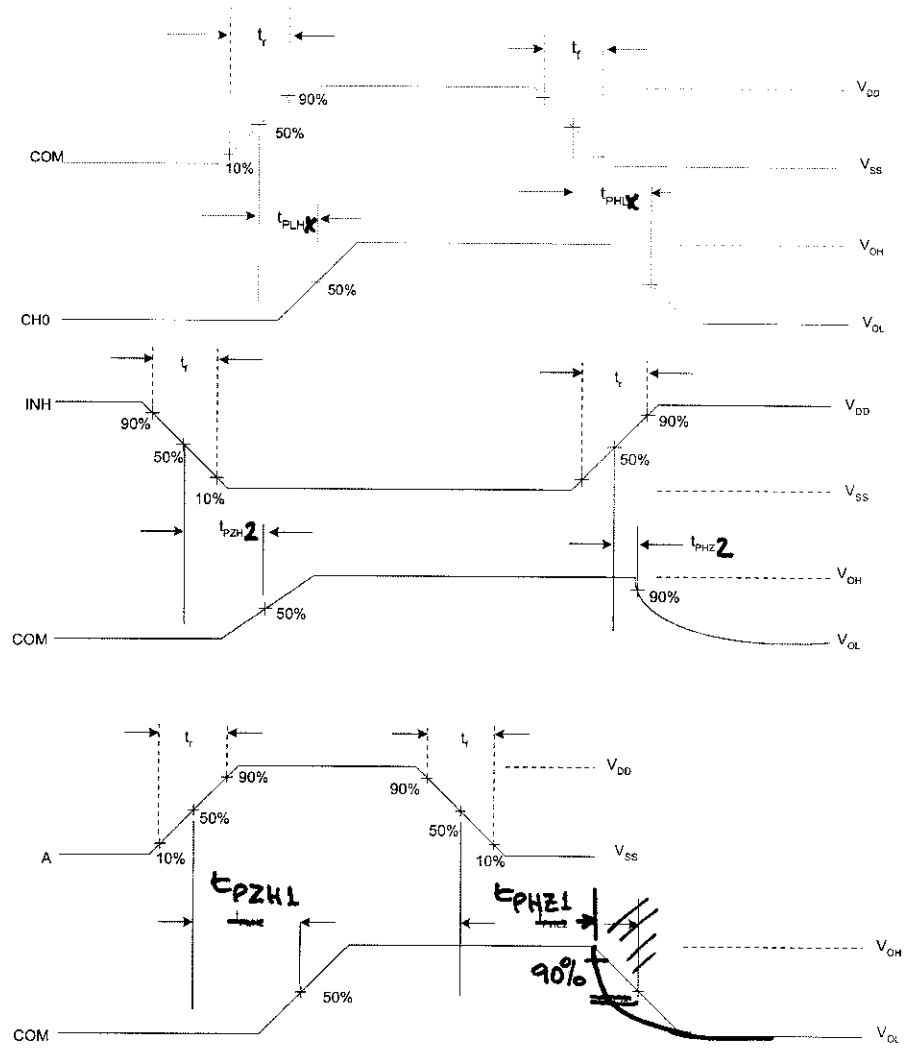
Output Enable Time High Impedance to High Output 1, A to COM

Characteristics	Symbols	MIL-STD-883 Test Method	Test Conditions Note 1	Limits Min	Limits Max	Units
~~Propagation Delay High to Low 2~~, A to COM ~~(Channel ON)~~ Output Disable Time High Output to High Impedance 1, A to COM	~~t_{PHL2}~~ t_{PHZ1}	3003	V_{IN}(A)=Pulse Generator V_{IN} (Remaining Inputs)=Truth Table V_{IL}=0V, V_{IH}=5V, V_{IN}(CH)=~~0V and~~ 5V and Open R_L=~~10kΩ~~ 300Ω V_{DD}=5V, V_{SS}=V_{EE}=0V Note 8	-	670	ns
Output Enable Time High Impedance to High Output 2, INH to COM	t_{PZH} 2	3003	V_{IN}(INH)=Pulse Generator V_{IN} (Remaining Inputs)=Truth Table V_{IL}=0V, V_{IH}=5V, V_{IN}(CH)=5V, R_L=10kΩ V_{DD}=5V, V_{SS}=V_{EE}=0V Note 8	-	400	ns
Output Disable Time High Output to High Impedance. 2, INH to COM	t_{PHZ} 2	3003	V_{IN}(INH)=Pulse Generator V_{IN} (Remaining Inputs)=Truth Table V_{IL}=0V, V_{IH}=5V, V_{IN}(CH)=5V, R_L=300Ω V_{DD}=5V, V_{SS}=V_{EE}=0V Note 8	-	400	ns

2.3.2 High and Low Temperatures Electrical Measurements

The measurements shall be performed at T_{amb}=+125 (+0 -5) °C and T_{amb}=- 55(+5-0)°C.

Characteristics	Symbols	MIL-STD-883 Test Method	Test Conditions Note 1	Limits Min	Limits Max	Units
Functional Test 1	-	3014	Verify Truth Table V_{IL}=0V,V_{IH}=3V V_{DD}=3V, V_{SS}=V_{EE}=0V Note 2	-	-	-
Functional Test 2	-	3014	Verify Truth Table V_{IL}=0V,V_{IH}=15V V_{DD}=15V, V_{SS}=V_{EE}=0V Note 2	-	-	-
Quiescent Current	I_{DD}	3005	V_{IL}=0V,V_{IH}=15V V_{DD}=15V, V_{SS}=V_{EE}=0V Note 3 T_{amb}=+125°C T_{amb}=- 55°C	 - -	 15 0.5	µA



2.4 PARAMETER DRIFT VALUES

Unless otherwise specified, the measurements shall be performed at T_{amb}=+22 ±3°C.

The test methods and test conditions shall be as per the corresponding test defined in Room Temperature Electrical Measurements.

The drift values (Δ) shall not be exceeded for each characteristic specified. The corresponding absolute limit values for each characteristic shall not be exceeded.