



MAX1613700

Summary:

This report summarizes the results of the reliability tests performed by Maxim to qualify the MAX1613700 for automotive applications.

Conclusion:

The MAX1613700 successfully meets the reliability requirements performed by Maxim in accordance with the automotive qualification standard, AEC-Q100.

Test Results/Lot information (Device Specific):

Table 1:

Lot Number:		JCHE2Q001CF	
Part Number:		MAX1613700/VY+T	
Temperature Grade:		1	
Fab Site:		MFN	
Fab Process Core:		S18	
Metallization/# Layers:		AlCu / 4	
Passivation:		SiN / SiO2	
Die Type:		CS21A-0A	
Package Assembly Site:		ASECL	
Die Substrate:		Si	
Package Type:		8L TDFN 2x2	
Wire Bond Material/Dia.:		CuPd 1.0 mil	
Mold Compound:		G700LA	
Die Attach:		ATB-125	
Leadframe Material:		COPPER	
Lead Finish:		100% MATTE TIN	
Flammability Rating:		UL-94 (V-0 Rating)	
Moisture Rating:		MSL 1	
Date Code:		2034	
Rel Lot Number:		R41938A	
Test (See Appendix 1)		Results	
		SS	Temp
ESD (HBM)	2500V	0/5	RH
ESD (CDM)	All Pins: 500V	0/5	RH
	Corner Pins: 750V	0/5	RH
Latch-Up	CI: 100mA	0/6	RH
	OV: 1.5 x MOV	0/6	RH
HTOL	192 hrs	0/77	RHC
Elec. Distributon	See Appendix 2	Cpk > 1.33	RHC

Core Process Cumulative FIT Rate:

$\lambda = 0.02 \text{ FITs (60\% confidence level @25°C)}$

$\lambda = 0.23 \text{ FITs (60\% confidence level @55°C)}$

The following tables include the process and package level qualification data to support the product level qualification. Multiple tables may be included if multiple wafer fabrication or assembly subcontractors are used (multiple package variations may be included).

Test Results/Lot information (Package Technology): TDFN/ASECL

Table 2:

Lot Number:	JCHE2Q001CA	JCHE2Q001CB	JCHE2Q001CC
Part Number:	MAX1613700/VY+	MAX1613700/VY+	MAX1613700/VY+
Temperature Grade:	1	1	1
Fab Site:	MFN	MFN	MFN
Fab Process Core:	S18	S18	S18
Metallization/# Layers:	AlCu / 4	AlCu / 4	AlCu / 4
Passivation:	SiN / SiO2	SiN / SiO2	SiN / SiO2
Die Type:	CS21A-0A	CS21A-0A	CS21A-0A
Die Substrate	Si	Si	Si
Package Assembly Site:	ASECL	ASECL	ASECL
Package Type:	8L TDFN 2x2	8L TDFN 2x2	8L TDFN 2x2
Wire Bond Material/Dia.:	CuPd 1.0 mil	CuPd 1.0 mil	CuPd 1.0 mil
Mold Compound:	G700LA	G700LA	G700LA
Die Attach:	ATB-125	ATB-125	ATB-125
Leadframe Material:	COPPER	COPPER	COPPER
Lead Finish:	100% MATTE TIN	100% MATTE TIN	100% MATTE TIN
Flammability Rating	UL-94 (V-0 Rating)	UL-94 (V-0 Rating)	UL-94 (V-0 Rating)
Moisture Rating:	MSL 1	MSL 1	MSL 1
Date Code:	2034	2034	2034
Rel Lot Number:	R41350A	R41350B	R41350C

AEC #	Test (See Appendix 1)	Results		Results		Results	
		SS	Temp	SS	Temp	SS	Temp
A1	Preconditioning	0/231	R	0/231	R	0/231	R
A2	HAST	0/77	RH	0/77	RH	0/77	RH
A3	Unbiased HAST	0/77	R	0/77	R	0/77	R
A4	Temperature Cycle	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH
C2	Wire Bond Pull	0/40	N/A	0/40	N/A	0/40	N/A
A6	High Temp Storage	1000hr – 0/45	RH	-	N/A	-	N/A
C3	Solderability	0/15	N/A	-	N/A	-	N/A
B1	High Temp Op/Life	1000hr – 0/77	RHC	1000hr – 0/77	RHC	1000hr – 0/77	RHC

Test Results/Lot information (Wafer Process Technology): S18/MFN

Table 3:

Lot Number:	JBPH4Q002CC	JBPH4Q002CA	JBPH43005AC	JBPH43004A
Part Number:	MAX20094ATIA/VY+	MAX20094ATIA/VY+	MAX20094ATIA/VY+	MAX20094ATIA/VY+
Temperature Grade:	1	1	1	1
Fab Site:	MFN	MFN	MFN	MFN
Fab Process Core:	S18	S18	S18	S18
Metallization/# Layers:	AlCu / 4	AlCu / 4	AlCu / 4	AlCu / 4
Passivation:	SiN / SiO2	SiN / SiO2	SiN / SiO2	SiN / SiO2
Die Type:	AP77A-0B	AP77A-0B	AP77A-0B	AP77A-0B
Die Substrate	Si	Si	Si	Si
Package Assembly Site:	UTL	UTL	UTL	ASECL
Package Type:	28L TQFN 5x5	28L TQFN 5x5	28L TQFN 5x5	28 TQFN 5x5
Wire Bond Material/Dia.:	CuPd 1.3 mil	CuPd 1.3 mil	CuPd 1.3 mil	CuPd 1.3 mil
Mold Compound:	G770HCD	G770HCD	G770HCD	G700LA
Die Attach:	AB8200T	AB8200T	AB8200T	EN4900G
Leadframe Material:	COPPER	COPPER	COPPER	COPPER
Lead Finish:	100% MATTE TIN	100% MATTE TIN	100% MATTE TIN	100% MATTE TIN
Flammability Rating	UL-94 (V-0 Rating)	UL-94 (V-0 Rating)	UL-94 (V-0 Rating)	UL-94 (V-0 Rating)
Moisture Rating:	MSL 1	MSL 1	MSL 1	MSL 1
Date Code:	1718	1718	1726	1725
Rel Lot Number:	R28961A	R28961B	R28961C	R28961G

AEC #	Test (See Appendix 1)	Results		Results		Results		Results	
		SS	Temp	SS	Temp	SS	Temp	SS	Temp
A1	Preconditioning	0/231	R	0/231	R	0/231	R	-	N/A
A2	HAST	0/77	RH	0/77	RH	0/77	RH	-	N/A
A3	Unbiased HAST	0/77	R	0/77	R	0/77	R	-	N/A
A4	Temperature Cycle	500x – 0/77	RH	500x – 0/77	RH	500x – 0/77	RH	-	N/A
A6	High Temp Storage	1000hr – 0/77	RH	1000hr – 0/77	RH	1000hr – 0/77	RH	-	N/A
B1	High Temp Op/Life	1000hr – 0/77	RHC	1000hr – 0/77	RHC	1000hr – 0/77	RHC	-	N/A
B1	High Temp Op/Life	48hr – 0/800	RH	-	N/A	48hr – 0/800	RH	48hr – 0/800	RH

Appendix 1: Qualification Requirements/Acceptance Criteria

TEST GROUP	STRESS	ABV	AEC#	#LOTS	SS/LOT	ACC	ATE TEMP	METHOD
A ACCELERATED ENVIRONMENTAL TESTS	Preconditioning (Per MSL)	PC	A1	3	77	0 Fails	R	J-STD-020 JESD22- A113
	Temp Hum Bias (85°C/85% RH, 1000hrs) or BHAST (130°C / 85% RH, 96hrs)	THB or HAST	A2	3	77	0 Fails	RH	JESD22-A101 or A110
	Unbiased HAST (130°C / 85% RH, 96hrs)	UHAST	A3	3	77	0 Fails	R	JESD22-A102, A118, or A101
	Temp Cycle (-65°C to 150°C, 500X)	TC	A4	3	77	0 Fails	RH	JESD22-A104
	Power Temp Cycling (-40°C to 125°C, 1000X)	PTC ¹	A5	1	45	0 Fails	RH	JESD22-A105
	High Temp Storage (150°C, 1000hrs or 500hrs)	HTSL ²	A6	1	45	0 Fails	RH	JESD22- A103
B ACCELERATED LIFETIME SIMULATION TESTS	High Temp Operating Life (BI Oven Temp: 125°C) ⁵	HTOL ³	B1	3	77	0 Fails	RHC	JESD22-A108
	Early Life Failure Rate (BI Oven Temp: 125°C) ⁵	ELFR ⁴	B2	3	800	0 Fails	RH	AEC Q100-008
	NVM Endurance, Data Retention, and Operational Life	EDR ⁶	B3	3	77	0 Fails	RH	AEC Q100-005
C PACKAGE ASSEMBLY INTEGRITY TESTS	Wire Bond Shear	WBS ⁷	C1	30 bonds minimum from at least 5 devices		Cpk ≥ 1.67	--	AEC Q100-001
	Wire Bond Pull	WBP	C2			0 Fails after TC	--	MIL-STD883 Method 2011
	Solderability	SD	C3	1	15	0	--	JESD22-B102 or J-STD-002D
	Physical Dimensions	PD ⁷	C4	3	10	Cpk ≥ 1.67	--	JESD22-B100 and B108
	Solder Ball Shear	SBS ⁷	C5	3	5 balls, min. 10 devices	Cpk ≥ 1.67	--	AEC Q100-010
	Lead Integrity	LI ⁸	C6	1	10 leads. 5 parts	No lead breakage or cracks	--	JESD22-B105
D DIE FABRICATOIN RELIABILITY TESTS	Electromigration	EM	D1	The Die Fabrication Reliability Tests and conditions can be found in Appendix A. These tests are carried out for every fabrication site. The data, test method, calculations and internal criterial is available to the customer upon request. If customer would like to see this data, please contact the Customer Quality Manager.				-
	Time Dependent Dielectric Breakdown	TDDDB	D2					-
	Hot Carrier Injection	HCI	D3					-
	Negative Bias Temperature Instability	NBTI	D4					-
	Stress Migration	SM	D5					-
E ELECTRICAL VERIFICATION TESTS	Pre- and Post-Stress Function/Parameter	TEST	E1	All	All	0 Fails	RHC	Test program to supplier data sheet or user specification
	Electrostatic Discharge Human Body Model	HBM	E2	1	25	0 Fails 2kV HBM Class 2 or better	RH	AEC Q100-002
	Electrostatic Discharge Charged Device Model	CDM	E3	1	15	0 Fails 750V corner pins + 500V all other pins	RH	AEC-Q100-011
	Latch-Up	LU	E4	1	6	0	RH	AEC-Q100-004
	Electrical Distribution	ED	E5	3	30	Cpk ≥ 1.33	RHC	AEC-Q100-009
	Electromagnetic Compatibility	EMC ⁹	E9	1	1	--	--	SAE J1752/3

Note:

- For products with maximum rated power ≥ 1W or $\Delta T_j \geq 40^\circ\text{C}$ or devices designed to drive inductive loads only.
- Stress duration per temperature grade classification of device.
- Grade 1: 1000hrs, Grade 2: 500hrs, Grade 3: 192hrs
- Grade 1: 48hrs, Grade 2: 24hrs, Grade 3: 12hrs
- Unless otherwise stated in the data results table.
- For products containing flash memory only.
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- Test not performed but supplied by assembly vendor and is included in the PPAP Element 11.
- For through-hole packaged devices only.
- Due to system level variables, this test is not part of Maxim's AECQ reliability program and is not performed during qualification.

Appendix 2: Electrical Distribution



CS21 : MAX1613700/VY+ : JCHE2Q001P Characterization

Test #	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
Test #: 1201 Test Name: BIST Leakage @ 5.5V - Pull down DataSheet: Leakage Current					
	125	nAMPS	-1.0E+03	1.0E+03	884.1
	25	nAMPS	-1.0E+03	1.0E+03	6526.4
	-40	nAMPS	-1.0E+03	1.0E+03	7536.6
Test #: 1203 Test Name: OVB Leakage @ 5.5V - Pull down DataSheet:					
	125	nAMPS	-1.0E+03	1.0E+03	620.1
	25	nAMPS	-1.0E+03	1.0E+03	13824.1
	-40	nAMPS	-1.0E+03	1.0E+03	7848.2
Test #: 1209 Test Name: OVB Leakage @ 1.71V - Pull down DataSheet:					
	125	nAMPS	-1.0E+03	1.0E+03	1112.7
	25	nAMPS	-1.0E+03	1.0E+03	21199.5
	-40	nAMPS	-1.0E+03	1.0E+03	10510.7
Test #: 1210 Test Name: BIST Leakage @ 5.5V - Pull up DataSheet:					
	125	nAMPS	-1.0E+03	1.0E+03	64.2
	25	nAMPS	-1.0E+03	1.0E+03	24.6
	-40	nAMPS	-1.0E+03	1.0E+03	20.1
Test #: 1212 Test Name: OVB Leakage @ 5.5V - Pull up DataSheet:					
	125	nAMPS	-1.0E+03	1.0E+03	57.0
	25	nAMPS	-1.0E+03	1.0E+03	21.5
	-40	nAMPS	-1.0E+03	1.0E+03	17.3
Test #: 1216 Test Name: BIST Leakage @ 1.71V - Pull up DataSheet:					
	125	nAMPS	-1.0E+03	1.0E+03	67.2
	25	nAMPS	-1.0E+03	1.0E+03	27.7
	-40	nAMPS	-1.0E+03	1.0E+03	22.8
Test #: 1218 Test Name: OVB Leakage @ 1.71V - Pull up DataSheet:					
	125	nAMPS	-1.0E+03	1.0E+03	59.2
	25	nAMPS	-1.0E+03	1.0E+03	23.8
	-40	nAMPS	-1.0E+03	1.0E+03	18.6
Test #: 1219 Test Name: CLRB Leakage @ 1.71V DataSheet:					
	125	nAMPS	-100.0	100.0	27.8
	25	nAMPS	-100.0	100.0	86.3
	-40	nAMPS	-100.0	100.0	79.5



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Test #	Test Name	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
Test #: 1221	CLRB Leakage @ 5.5V					
		125	nAMPS	-100.0	100.0	8.3
		25	nAMPS	-100.0	100.0	15.0
		-40	nAMPS	-100.0	100.0	43.8
Test #: 3201	VOL RSTB @ 5V; Sink=3mA					
		125	mVOLTS	-100.0	300.0	85.6
		25	mVOLTS	0	200.0	18.9
		-40	mVOLTS	-100.0	300.0	69.5
Test #: 3202	VOL RSTB @ 1.71V; Sink=8uA					
		125	mVOLTS	-100.0	300.0	3921.8
		25	mVOLTS	0	200.0	3.7
		-40	mVOLTS	-100.0	300.0	3166.6
Test #: 3203	VOL RSTB @ 1.1V; Sink=8uA					
		125	mVOLTS	-100.0	300.0	2659.2
		25	mVOLTS	-100.0	200.0	1052.8
		-40	mVOLTS	-100.0	300.0	1179.7
Test #: 3204	VOL BIST @ 5V; Sink=3mA					
		125	mVOLTS	-100.0	300.0	77.8
		25	mVOLTS	0	200.0	22.2
		-40	mVOLTS	-100.0	300.0	64.7
Test #: 3205	VOL BIST @ 1.71V; Sink=8uA					
		125	mVOLTS	-100.0	300.0	4383.4
		25	mVOLTS	0	200.0	4.4
		-40	mVOLTS	-100.0	300.0	3999.6
Test #: 3206	VOL OVB @ 5V; Sink=3mA					
		125	mVOLTS	-100.0	300.0	83.7
		25	mVOLTS	0	200.0	23.9
		-40	mVOLTS	-100.0	300.0	75.4
Test #: 3207	VOL OVB @ 1.71V; Sink=8uA					
		125	mVOLTS	-100.0	300.0	5033.1
		25	mVOLTS	0	200.0	10.6
		-40	mVOLTS	-100.0	300.0	6341.7



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Test #: 3502	Test Name: CLRB to BIST Assert Delay @ 1.71V			DataSheet: On demand CLR to BIST Asset Delay
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	100.0	380.0 20.8
	25	uSECONDS	120.0	350.0 27.9
	-40	uSECONDS	100.0	380.0 12.8
Test #: 3504	Test Name: CLRB to BIST Assert Delay @ 3.3V			DataSheet: On demand CLR to BIST Asset Delay
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	100.0	380.0 23.1
	25	uSECONDS	120.0	350.0 37.3
	-40	uSECONDS	100.0	380.0 17.6
Test #: 3506	Test Name: CLRB to BIST Assert Delay @ 5.5V			DataSheet: On demand CLR to BIST Asset Delay
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	100.0	380.0 23.4
	25	uSECONDS	120.0	350.0 37.4
	-40	uSECONDS	100.0	380.0 20.4
Test #: 4001	Test Name: Threshold Nominal @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	VOLTS	3.069	3.531 23.7
	25	VOLTS	3.069	3.531 136.5
	-40	VOLTS	3.069	3.531 49.2
Test #: 4002	Test Name: OV Threshold @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	VOLTS	3.4	3.7 12.2
	25	VOLTS	3.4	3.7 47.3
	-40	VOLTS	3.4	3.7 27.4
Test #: 4003	Test Name: OV Tolerance (Meas) @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	6.0	8.0 3.0
	25	%	6.0	8.0 10.6
	-40	%	6.0	8.0 4.3
Test #: 4004	Test Name: OV Tolerance (Error) @ 1.71V			DataSheet: Over Voltage threshold accuracy at 1.71V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	-1.0	1.0 3.0
	25	%	-700.0E-03	700.0E-03 7.1
	-40	%	-1.0	1.0 4.3
Test #: 4007	Test Name: UV Threshold @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	VOLTS	2.8	3.1 3.3
	25	VOLTS	2.8	3.1 10.3
	-40	VOLTS	2.8	3.1 4.3



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Test #: 4008	Test Name: UV Tolerance (Meas) @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	6.0	8.0 3.5
	25	%	6.0	8.0 11.1
	-40	%	6.0	8.0 4.7
Test #: 4009	Test Name: UV Tolerance (Error) @ 1.71V			DataSheet: Undervoltage Threshold Accuracy
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	-1.0	1.0 3.5
	25	%	-700.0E-03	700.0E-03 7.5
	-40	%	-1.0	1.0 4.7
Test #: 4015	Test Name: OV Tolerance (Error) @ 3.3V			DataSheet: Over voltage threshold accuracy at 3.3V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	-1.0	1.0 2.7
	25	%	-700.0E-03	700.0E-03 8.2
	-40	%	-1.0	1.0 2.0
Test #: 4020	Test Name: UV Tolerance (Error) @ 3.3V			DataSheet: Undervoltage Threshold Accuracy at 3.3V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	-1.0	1.0 3.1
	25	%	-700.0E-03	700.0E-03 8.0
	-40	%	-1.0	1.0 5.3
Test #: 4023	Test Name: Threshold Nominal @ 5.5V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	VOLTS	3.069	3.531 23.5
	25	VOLTS	3.069	3.531 131.2
	-40	VOLTS	3.069	3.531 48.8
Test #: 4024	Test Name: OV Threshold @ 5.5V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	VOLTS	3.4	3.7 12.1
	25	VOLTS	3.4	3.7 48.1
	-40	VOLTS	3.4	3.7 27.9
Test #: 4025	Test Name: OV Tolerance (Meas) @ 5.5V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	6.0	8.0 2.9
	25	%	6.0	8.0 11.8
	-40	%	6.0	8.0 5.1
Test #: 4026	Test Name: OV Tolerance (Error) @ 5.5V			DataSheet: Over voltage threshold accuracy at 5.5V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	-1.0	1.0 2.9
	25	%	-700.0E-03	700.0E-03 8.2
	-40	%	-1.0	1.0 5.1



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Test #: 4029	Test Name: UV Threshold @ 5.5V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	VOLTS	2.8	3.2 14.0
	25	VOLTS	2.8	3.2 44.6
	-40	VOLTS	2.8	3.2 23.4
Test #: 4030	Test Name: UV Tolerance (Meas) @ 5.5V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	6.0	8.0 3.3
	25	%	6.0	8.0 10.9
	-40	%	6.0	8.0 5.3
Test #: 4031	Test Name: UV Tolerance (Error) @ 5.5V			DataSheet: Under voltage threshold accuracy at 5.5V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	%	-1.0	1.0 3.3
	25	%	-700.0E-03	700.0E-03 7.5
	-40	%	-1.0	1.0 5.3
Test #: 7001	Test Name: RSTB tPD OV @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	0	10.0 7.5
	25	uSECONDS	0	10.0 11.6
	-40	uSECONDS	0	10.0 5.7
Test #: 7002	Test Name: OVB tPD OV @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	0	10.0 6.6
	25	uSECONDS	0	10.0 11.9
	-40	uSECONDS	0	10.0 6.0
Test #: 7003	Test Name: RSTB tPD UV @ 1.71V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	0	20.0 31.5
	25	uSECONDS	0	20.0 26.5
	-40	uSECONDS	0	20.0 17.7
Test #: 7101	Test Name: RSTB tPD OV @ 3.3V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	0	10.0 8.0
	25	uSECONDS	0	10.0 13.0
	-40	uSECONDS	0	10.0 7.3
Test #: 7102	Test Name: OVB tPD OV @ 3.3V			DataSheet:
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	0	10.0 7.3
	25	uSECONDS	0	10.0 12.9
	-40	uSECONDS	0	10.0 7.2



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Test #: 7103	Test Name: RSTB tPD UV @ 3.3V			DataSheet:	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	uSECONDS	0	20.0	31.2
	25	uSECONDS	0	20.0	26.9
	-40	uSECONDS	0	20.0	17.8
Test #: 7104	Test Name: Reset Timeout Period @ 3.3V			DataSheet:	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	mSECONDS	5.0	15.0	23.8
	25	mSECONDS	5.0	15.0	56.9
	-40	mSECONDS	5.0	15.0	21.5
Test #: 7105	Test Name: Reset Timeout Accuracy @ 3.3V			DataSheet: reset time out period accuracy	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	%	-20.0	20.0	8.5
	25	%	-18.0	18.0	23.3
	-40	%	-20.0	20.0	10.5
Test #: 7201	Test Name: RSTB tPD OV @ 5.5V			DataSheet:	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	uSECONDS	0	10.0	7.3
	25	uSECONDS	0	10.0	14.0
	-40	uSECONDS	0	10.0	7.7
Test #: 7202	Test Name: OVB tPD OV @ 5.5V			DataSheet:	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	uSECONDS	0	10.0	7.0
	25	uSECONDS	0	10.0	13.8
	-40	uSECONDS	0	10.0	7.0
Test #: 7203	Test Name: RSTB tPD UV @ 5.5V			DataSheet:	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	uSECONDS	0	20.0	29.8
	25	uSECONDS	0	20.0	28.4
	-40	uSECONDS	0	20.0	18.5
Test #: 7205	Test Name: Reset Timeout Accuracy @ 5.5V			DataSheet:	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	%	-20.0	20.0	7.7
	25	%	-18.0	18.0	18.8
	-40	%	-20.0	20.0	12.8
Test #: 8001	Test Name: CLRB Min Input Pulse @ 1.71V - OV			DataSheet: CLRB Input Pulse Width	
	Temp	Unit	EC/QA Low	EC/QA High	QA Cpk
	125	nSECONDS	100.0	400.0	13.4
	25	nSECONDS	80.0	350.0	18.8
	-40	nSECONDS	100.0	400.0	17.1



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Test #: 8002	Test Name: CLRB Min Input Pulse @ 1.71V - BIST			DataSheet: CLRB/BISTB Minimum pulse width at 1.71V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	90.0	150.0 7.4
	25	uSECONDS	80.0	130.0 8.8
	-40	uSECONDS	90.0	150.0 7.3
Test #: 8003	Test Name: CLRB Min Input Pulse @ 3.3V - OV			DataSheet: CLRB input pulse width at 3.3V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	nSECONDS	100.0	400.0 15.1
	25	nSECONDS	80.0	350.0 17.5
	-40	nSECONDS	100.0	400.0 13.0
Test #: 8004	Test Name: CLRB Min Input Pulse @ 3.3V - BIST			DataSheet: CLRB/BISTB Minimum pulse width @ 3.3V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	80.0	150.0 9.1
	25	uSECONDS	90.0	130.0 21.4
	-40	uSECONDS	80.0	150.0 12.0
Test #: 8005	Test Name: CLRB Min Input Pulse @ 5.5V - OV			DataSheet: CLRB input pulse width at 5.5V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	nSECONDS	100.0	400.0 14.5
	25	nSECONDS	80.0	350.0 20.4
	-40	nSECONDS	100.0	400.0 14.1
Test #: 8006	Test Name: CLRB Min Input Pulse @ 5.5V - BIST			DataSheet: CLRB BISTB minimum pulse width at 5.5V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	uSECONDS	80.0	150.0 4.6
	25	uSECONDS	90.0	130.0 2.4
	-40	uSECONDS	80.0	150.0 10.0
Test #: 8101	Test Name: CLRB Glitch Immunity @ 1.71V			DataSheet: CLRB input glitch immunity at 1.71V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	nSECONDS	50.0	300.0 21.8
	25	nSECONDS	80.0	270.0 12.0
	-40	nSECONDS	50.0	300.0 11.3
Test #: 8102	Test Name: CLRB Glitch Immunity @ 3.3V			DataSheet: CLRB input glitch immunity at 3.3V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	nSECONDS	50.0	300.0 28.6
	25	nSECONDS	80.0	270.0 17.3
	-40	nSECONDS	50.0	300.0 22.4
Test #: 8103	Test Name: CLRB Glitch Immunity @ 5.5V			DataSheet: CLRB input glitch immunity at 5.5V
	Temp	Unit	EC/QA Low	EC/QA High QA Cpk
	125	nSECONDS	50.0	300.0 28.2
	25	nSECONDS	50.0	270.0 26.7
	-40	nSECONDS	50.0	300.0 24.1