



MAX40660A/D+

Summary:

This report summarizes the results of the reliability tests performed by Maxim to qualify the MAX40660A/D+ for commercial applications.

Conclusion:

The MAX40660A/D+ successfully meets the reliability requirements performed by Maxim in accordance with the JEDEC standards.

Test Results/Lot information (Device Specific):

Table 1:

Lot Number:		ECUR4Q001EQ	
Part Number:		MAX40660ATB/VY+T	
Temperature Grade:		1	
Fab Site:		EPSON	
Fab Process Core:		MB3	
Metallization/# Layers:		AlCu / 4	
Passivation:		BCB	
Die Type:		OZ62A-0A	
Package Assembly Site:		ASECL	
Die Substrate:		Si	
Package Type:		59.06 x 66.14	
Wire Bond Material/Dia.:		CuPd 1.0 mil	
Mold Compound:		G700LA	
Die Attach:		EN4900G	
Leadframe Material:		COPPER	
Lead Finish:		100% MATTE TIN	
Flammability Rating:		UL-94 (V-0 Rating)	
Moisture Rating:		MSL 1	
Date Code:		1915	
Rel Lot Number:		R40864B	
Test		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

Core Process Cumulative FIT Rate:

$\lambda = 0.08$ FITs (60% confidence level @25°C)

$\lambda = 0.92$ FITs (60% confidence level @55°C)

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

Test Results/Lot information (Wafer Process Technology): EPSON/MB3

Table 2:

Lot Number:	EBAC02001BC	EAFL5Q045I/A045J	EAFL5A0048C/D/E				
Part Number:	MAX2634AXT/V+	TX27YETH+	TX27YETH+				
Temperature Grade:	1	3	3				
Fab Site:	EPSON	EPSON	EPSON				
Fab Process Core:	MB3	MB3	MB3				
Metallization/# Layers:	AlCu / 4	AlCu / 4	AlCu / 4				
Passivation:	BCB	BCB	BCB				
Die Type:	WD39Z	TX27Y-1Z	TX27Y-1Z				
Die Substrate	Si	Si	Si				
Package Assembly Site:	CARSEM – M	UTL	UTL				
Package Type:	64L TQFN 9x9	64L TQFN 9x9	64L TQFN 9x9				
Wire Bond Material/Dia.:	Au 1.0 mil	Au 1.0 mil	Au 1.0 mil				
Mold Compound:	G600	G770HCD	G770HCD				
Die Attach:	8006NS-2X	AB8200T	AB8200T				
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 3	MSL 3	MSL 3				
Date Code:	1510	1232	1234				
Rel Lot Number:	R27512B	R26182A	R26182C				
AEC #	Test	Results		Results		Results	
		SS	Temp	SS	Temp	SS	Temp
A1	Preconditioning	0/231	R	-	N/A	-	N/A
A2	HAST	0/77	RH	-	N/A	-	N/A
A3	Unbiased HAST	0/77	R	-	N/A	-	N/A
A4	Temperature Cycle	500x – 0/77	RH	-	N/A	-	N/A
C2	Wire Bond Pull	-	N/A	-	N/A	-	N/A
A6	High Temp Storage	1000hr – 0/45	RH	-	N/A	-	N/A
C3	Solderability	-	N/A	-	N/A	-	N/A
B1	High Temp Op/Life	-	N/A	1000hr – 0/77	RHC	1000hr – 0/77	RHC
B2	Early Life Failure Rate	48hr – 0800	RH	12hr – 0/80	RH	12hr – 0/80	RH

Test Results/Lot information (Wafer Process Technology): EPSON/MB3

Table 3:

Lot Number:	EAKP0A010AA	EAKP0A016BA	EAKP0A008AA				
Part Number:	MAX2553ETN+	MAX2553ETN+	MAX2553ETN+				
Temperature Grade:	3	3	3				
Fab Site:	EPSON	EPSON	EPSON				
Fab Process Core:	MB3	MB3	MB3				
Metallization/# Layers:	AlCu / 4	AlCu / 4	AlCu / 4				
Passivation:	BCB	BCB	BCB				
Die Type:	WC46A-2B	WC46A-2B	WC46A-2B				
Die Substrate	Si	Si	Si				
Package Assembly Site:	ASECL	ASECL	ASECL				
Package Type:	56L TQFN 7x7	56L TQFN 7x7	56L TQFN 7x7				
Wire Bond Material/Dia.:	Au 1.0 mil	Au 1.0 mil	Au 1.0 mil				
Mold Compound:	G700HJ	G700HJ	G700HJ				
Die Attach:	EN4900G	EN4900G	EN4900G				
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:	1311	1314	1319				
Rel Lot Number:	R26494A	R26494B	R26494C				
AEC #	Test	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	-	N/A	-	N/A	-	N/A
A6	High Temp Storage	1000hr – 0/45	RH	1000hr – 0/45	RH	1000hr – 0/45	RH
C3	Solderability	-	N/A	-	N/A	-	N/A
B1	High Temp Op/Life	-	N/A	1000hr – 0/77	RHC	1000hr – 0/77	RHC
B2	Early Life Failure Rate	48hr – 0800	RH	-	N/A	48hr – 0800	RH