

Automotive Qualification Report
MAX1595EUA50

		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
		Lot # 1 (S9UCBA012C)	Lot # 2 (S9UCBA009A)	Lot # 3 (SV8BNA008BX)	Lot # 4 (SOKAD3044B)	Lot # 5 (D8VAGA77A)	Lot # 6 (D8VAGA056B)										
Regulated 3.3V/5.0V Step-Up/ Step-Down Charge Pump	Maxim Part Number	MAX1595EUA50	MAX1595EUA50	MAX893LESA	MAX1792EUA33	MAX1790EUA+	MAX1790EUA+										
	Description (Note 1)	AEC-Q100	Maxim	Maxim	AEC-Q100	Maxim	Maxim										
	Operating Temperature	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C	-40C to +85C									
	Temperature Grade	3	3	3	3	3	3										
	Fab Location	Maxim, San Jose	Maxim, San Jose	Maxim, San Jose	Maxim, San Jose	Maxim, Dallas	Maxim, Dallas										
	Fab Process	B8 (8", 0.8 um)	B8 (8", 0.8 um)	B8 (8", 0.8 um)	B8 (8", 0.8 um)	B8 (8", 0.8 um)	B8 (8", 0.8 um)										
	Die	PY57Y-1Z	PX81Z-1Z	PX81Z-1Z	PY27Z	PY40Y	PY40Y										
	Assembly Location	NSEB, Thailand	NSEB, Thailand	NSEB, Thailand	Anam/Amkor Philippines	NSEB, Thailand	NSEB, Thailand										
	Die Size (mils)	62 x 72	62 x 72	41 x 103	60 x 60	61 x 87	61 x 87										
	Package	8uMAX	8uMAX	8 NSOIC	8uMAX (Exposed Paddle)	8uMAX	8uMAX										
	Wire Bond Material	Au .001"	Au .001"	Au .0013"	Au .001"	Au .001"	Au .001"										
	Mold Compound	KMC184-7	KMC184-7	EME6600CS	EME7050B	KMC184-7	KMC184-7										
	Die Attach	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4										
	Lead Frame	Copper	Copper	Copper	Copper	Copper	Copper										
Lead Finish	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	100% Matte Sn	100% Matte Sn											
Reliability Lot Number	A050001A	R040044A/R040086A	R030115K11	A050006A	R040104A	R040104B											
		Fails/Sample Size			Fails/Sample Size			Fails/Sample Size			Fails/Sample Size			Fails/Sample Size			
AEC-Q100 Rev. F Tests	#	Conditions	+25C	+85C	-40C	+25C	+85C	-40C	+25C	+85C	-40C	+25C	+85C	-40C	+25C	+125C	-40C
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb)	0/215			0/231			0/215								
		260C (100% Sn)										0/150			0/150		
		=>CSAM	0/22						0/22								
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours															
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/42	0/42		0/77			0/45	0/45		0/50			0/45		
Autoclave (AC)	A3	121C/85%RH 168 Hours				0/77						0/77			0/77		
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/45	0/45					0/45	0/45							
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/77	0/77		0/77			0/77	0/77		0/80			0/79		
		=>Wirebond Pull (WBP)	0/90						0/88								
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/80	0/80		0/77			0/80	0/80		0/77			0/77		
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours	0/45	0/45	0/45	0/49			0/75	0/75	0/75						
Early Life Failure Rate (ELFR)	B2	+135C 48 Hours															
Maxim Infant Mortality (IME)		+135C 12 Hours						0/8615									
Wire Bond Shear (WBS)	C1		(Note 3)														
Wire Bond Pull (WBP)	C2		(Note 3)									0/200			0/200		
Solderability (SD)	C3		0/15														
Physical Dimensions (PD)	C4		0/15									0/15			0/15		
Lead Integrity (LI)	C6		0/10														
(EM, TDDB, HCI)	D1-3																
Pre- and Post-Stress Electrical (TEST)	E1		All	All	All	All			All	All	All	All			All		
Human Body Model ESD (HBM)	E2		800V	800V													
Machine Model ESD (MM)	E2																
Charge Device Model ESD (CDM)	E3		500V	500V													
Latch-Up (LU)	E4		0/6	0/6													

(Note 1) AEC-Q100 test performed per Rev. F guidelines. Maxim tests performed to internal specification 10-3006.

(Note 2) Tests performed on three assembly lots.

(Note 3) Monitor data from assembly subcontractor.

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		✓				✓			
		Lot # 7 (SYGAJA011B)				Lot # 8 (I2N1AQ001Q)			
Regulated 3.3V/5.0V Step-Up/ Step-Down Charge Pump	Maxim Part Number	MAX668EUB+				MAX4247AUB+ (Note 2)			
	Description (Note 1)	Maxim				Maxim			
	Operating Temperature	-40C to +85C				-40C to +125C			
	Temperature Grade	3				1			
	Fab Location	Maxim, San Jose				Maxim, San Jose			
	Fab Process	B12 (8", 1.2 um)				S8 (6", 0.8 um)			
	Die	PX02Y				OX58Z-1Z			
	Assembly Location	NSEB, Thailand				NSEB, Thailand			
	Die Size (mils)	58 x 80				24 x 80			
	Package	10uMAX				10uMAX			
	Wire Bond Material	Au .001"				Au .001" (w/down bonds)			
	Mold Compound	KMC184-7				KMC184-7			
	Die Attach	84-1LMISR4				84-1LMISR4			
	Lead Frame	Copper				Copper			
	Lead Finish	100% Matte Sn				100% Matte Sn			
Reliability Lot Number	R040104C				R050151A/B/C				
		Fails/Sample Size			Fails/Sample Size				
AEC-Q100 Rev. F Tests	#	Conditions	+25C	+85C	-40C	+25C	+125C	-40C	
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb)							
		260C (100% Sn)	0/150			0/459			
		=>CSAM							
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours							
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/45			1 Lot 0/50			
Autoclave (AC)	A3	121C/85%RH 168 Hours	0/77						
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours							
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/80			0/237			
		=>Wirebond Pull (WBP)							
		>3 grams							
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/77			0/231			
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours							
Early Life Failure Rate (ELFR)	B2	+135C 48 Hours							
Maxim Infant Mortality (IME)		+135C 12 Hours							
Wire Bond Shear (WBS)	C1								
Wire Bond Pull (WBP)	C2		0/200			0/589			
Solderability (SD)	C3								
Physical Dimensions (PD)	C4		0/15						
Lead Integrity (LI)	C6								
(EM, TDDb, HCI)	D1-3								
Pre- and Post-Stress Electrical (TEST)	E1		All			All			
Human Body Model ESD (HBM)	E2								
Machine Model ESD (MM)	E2								
Charge Device Model ESD (CDM)	E3								
Latch-Up (LU)	E4								

(Note 1) AEC-Q100 test performed per Rev. F guidelines. Maxim tes

(Note 2) Tests performed on three assembly lots.

(Note 3) Monitor data from assembly subcontractor.

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