

**Automotive Qualification Report**  
**MAX1972EEE**

		Lot # 1 (S812CA015I)	Lot # 2 (S9UCBA012C)	Lot # 3 (SOKAD3044B)	Lot # 4 (SOKADQ001E)	Lot # 5 (SV8BNA008BX)	Lot # 6 (S8N4CQ002H)	Lot # 7 (TF90HA048C)
<b>Dual, 180° Out-of-Phase, 1.4MHz, 750mA Step-Down Regulator with POR and RSI/PFO</b>	Maxim Part Number	MAX1972EEE	MAX1595EUA50	MAX1792EUA25/33/50	MAX1792EUA25/33/50	MAX893LESA	MAX3378EEUD	MAX1845EEI
	Description (Note 1)	AEC-Q100	AEC-Q100	AEC-Q100	Maxim (Note 2)	Maxim	AEC-Q100	AEC-Q100
	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	3
	Fab Location	Maxim, San Jose	Maxim, San Jose	Maxim, San Jose	Maxim, San Jose	Maxim, San Jose	Maxim, San Jose	Maxim, San Antonio
	Fab Process	B8 (8", 0.8 um MOS)	B8 (8", 0.8 um MOS)	B8 (8", 0.8 um MOS)	B8 (8", 0.8 um MOS)	B8 (8", 0.8 um MOS)	B8 (8", 0.8 um MOS)	B12 (8", 1.2 um MOS)
	Die	PM30Z-2Z	PY57Y-1Z	PY27Z	PY27Z	PX81Z-1Z	RT140Z-4Z	PY74Y
	Assembly Location	Anam/Amkor Philippines	NSEB, Thailand	Anam/Amkor Philippines	Unisem	NSEB, Thailand	Anam/Amkor Philippines	Anam/Amkor Philippines
	Die Size (mils)	86 x 132	62 x 72	60 x 60	60 x 60	41 x 103	80 x 61	83 x 153
	Package	16 QSOP	8uMAX	8uMAX (Exposed Paddle)	8uMAX (Exposed Paddle)	8 NSOIC	14 TSSOP	28 QSOP
	Wire Bond Material	Au .001"	Au .001"	Au .001"	Au .001"	Au .0013"	Au .001"	Au .001"
	Mold Compound	EME6600CS	KMC184-7	EME7050B	MP7400EH	EME6600CS	EME7351	EME6600CS
	Die Attach	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4	84-1LMISR4
	Lead Frame	Copper	Copper	Copper	Copper	Copper	Copper	Copper
Lead Finish	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	100% Matte Sn	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	
Reliability Lot Number	A050026, DC 0536	A050001, DC 0513	A050006, DC 0514	R030093A/B/C, DC 0325	R030115K11, DC 0341	A050024, DC 0534	A050035, DC 0545	
	Failures/Sample Size	Failures/Sample Size	Failures/Sample Size	Failures/Sample Size	Failures/Sample Size	Failures/Sample Size	Failures/Sample Size	
<b>AEC-Q100 Rev. F Tests</b>	<b>#</b>	<b>Conditions</b>	<b>+25C</b>	<b>+85C</b>	<b>-40C</b>	<b>+25C</b>	<b>+85C</b>	<b>-40C</b>
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb) 260C (100% Sn)	0/175			0/215		
						0/450		Pending
=>CSAM		J-STD-020C (1 lot)	0/22			0/22		Pending
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours						
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/45	0/45		0/42	0/42	0/135
								Pending 48
Autoclave (AC)	A3	121C/85%RH 168 Hours						0/231
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/45	0/45		0/45	0/45	
								Pending 77
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/79	0/79		0/77	0/77	0/230
								Pending 77
=>Wirebond Pull (WBP)		>3 grams	0/98			0/90		0/88
								Pending
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/79	0/79		0/80	0/80	0/80
								0/231
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours	0/44	0/44	0/44	0/45	0/45	0/45
Early Life Failure Rate (ELFR)	B2	+135C 48 Hours				0/75	0/75	0/75
Maxim Infant Mortality (IME)		+135C 12 Hours				0/135		
								0/8615
Wire Bond Shear (WBS)	C1		(Note 3)					
Wire Bond Pull (WBP)	C2		(Note 3)					(Note 3)
Solderability (SD)	C3		0/15					
Physical Dimensions (PD)	C4		0/10					
Lead Integrity (LI)	C6		0/5					
(EM, TDDB, HCI)	D1-3							
Pre- and Post-Stress Electrical (TEST)	E1		All	All	All	All	All	All
Human Body Model ESD (HBM)	E2		1000V	1000V				
Machine Model ESD (MM)	E2	JESD22/A114						
Charged Device Model ESD (CDM)	E3	JESD22/A115	750V	750V				
Latch-Up (LU)	E4	AEC-Q100-011	0/6	0/6				
Electrothermal Gate Leakage (GL)	E8	JESD78, Class I						

(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.

✓ = Complete

□ = Open