

Automotive Qualification Report
MAX1452AAE

		✓	✓	□	✓	✓	✓	✓										
		Lot # 1 (K91BA008AY)	Lot # 2 (K2S0BA014A)	Lot # 3 (KXD0DQ004C)	Lot # 4 (K91AAQ001C)	Lot # 5 (K9TABQ002C)	Lot # 6 (K3UABQ001J)											
Low-Cost Precision Sensor Signal Conditioner	Maxim Part Number	MAX1452AAE	MAX1455AAE	MAX1464AAI	MAX1452AAE	MAX1453AAE	MAX5105EEP											
	Description (Note 1)	AEC-Q100	AEC-Q100	AEC-Q100	Maxim	Maxim	Maxim											
	Operating Temperature	-40C to +125C	-40C to +125C	-40C to +125C	-40C to +125C	-40C to +125C	-40C to +85C											
	Temperature Grade	1	1	1	1	1	3											
	Fab Location	TSMC	TSMC	TSMC	TSMC	TSMC	TSMC											
	Fab Process	.50um 2P4M (w/memory)	.50um 2P4M (w/memory)	.50um 2P4M (w/memory)	.50um 2P4M (w/memory)	.50um 2P4M (w/memory)	.50um 2P4M (w/memory)											
	Die	SC02Y	SC05Z	SC64Z	SC02Y	SC03Z	DA87Y											
	Assembly Location	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	NSEB, Thailand											
	Die Size (mils)	91 x 98	91 x 87	115 x 127	91 x 98	90 x 81	84 x 128											
	Package	16-Lead SSOP	16-Lead SSOP	28-Lead SSOP	16-Lead SSOP	16-Lead SSOP	20-Lead QSOP											
	Wire Bond Material	Au .001"	Au .001"	Au .001"	Au .001"	Au .001"	Au .001"											
	Mold Compound	EME6600CS	EME6600CS	EME6600CS	MP8000AN	MP8000AN	EME6600CS											
	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	85/15 Sn/Pb	85/15 Sn/Pb												
Reliability Lot Number	A050004	A050003	A050014	R000104	R000104	R000104												
		Fails/Sample Size	Fails/Sample Size	Fails/Sample Size	Fails/Sample Size	Fails/Sample Size	Fails/Sample Size											
AEC-Q100 Rev. F Tests	#	Conditions	+25C	+125C	-40C	+25C	+125C	-40C	+25C	+125C	-40C	+25C	+125C	-40C	+25C	+85C	-40C	
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb)	0/215			0/215												
=>CSAM			0/22			Pending												
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours																
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/42	0/42		0/44	0/44		0/45			0/45			0/44			
Autoclave (AC)	A3	121C/85%RH 168 Hours							0/76			0/76			0/77			
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/45	0/42		0/45	0/45		0/50	0/50								
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/77	0/77		0/77	0/77		0/80	0/80				0/77			0/76	
=>Wirebond Pull (WBP)		>3 grams	0/176			0/144			Pending									
High Temperature Storage (HTSL)	A6	+150C 1000 Hours (Data Retention)	0/80	0/80		0/80	0/80		Pending	Pending		0/77		0/77				
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours	0/80	0/80	0/80	0/48	0/48	0/48	Pending	Pending	Pending	0/80		0/79			0/79	
Early Life Failure Rate (ELFR)	B2	+135C 48 Hours	0/800	0/800														
NVM Endurance, Data Retention (EDR)	B3	No HTOL, 1K Cycles				(Note 2)						0/77					0/77	
Wire Bond Shear (WBS)	C1		(Note 3)			(Note 3)												
Wire Bond Pull (WBP)	C2	>5 grams	(Note 3)			(Note 3)					0/160			0/130				
Solderability (SD)	C3		0/15			0/15												
Physical Dimensions (PD)	C4		0/15			0/15			Pending									
Lead Integrity (LI)	C6		0/10			0/10												
Pre- and Post-Stress Electrical (TEST)	E1		All	All	All	All	All	All	All	All	All	All	All	All	All	All	All	
Human Body Model ESD (HBM)	E2		1000V	1000V								1500V						
Machine Model ESD (MM)	E2																	
Charge Device Model ESD (CDM)	E3		500V	500V														
Latch-Up (LU)	E4		0/6	0/6														
Electrothermal Gate Leakage (GL)	E8																	

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

(Note 2) Maxim data.

(Note 3) Monitor data from assembly subcontractor.

✓ = Complete

□ = Open