

Automotive Qualification Report
MAX1455AAE

		✓	✓	□	✓	✓	✓	✓						
		Lot # 1 (K2S0BA014A)	Lot # 2 (K91BA008AY)	Lot # 3 (KXD0DQ004C)	Lot # 4 (K91AAQ001C)	Lot # 5 (K9TABQ002C)	Lot # 6 (K3UABQ001J)							
Low-Cost Automotive Sensor Signal Conditioner	Maxim Part Number	MAX1455AAE	MAX1452AAE	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 +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)	.50um 2P4M (w/memory)						
	Die	SC05Z	SC02Y	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 87	91 x 98	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	A050003	A050004	A050014	R000104	R000104	R000104								
		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	+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	0/44	0/44		0/42	0/42		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	0/45		0/45	0/42		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				0/76
=>Wirebond Pull (WBP)		>3 grams	0/144			0/176			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	0/48	0/48	0/48	0/80	0/80	0/80	Pending	Pending	Pending	0/80		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
Human Body Model ESD (HBM)	E2		1000V	1000V								1500V		
Machine Model ESD (MM)	E2													
Charge Device Model ESD (CDM)	E3		750V	750V										
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