Automotive Qualification Report

MAX9248/50ECM+

27-Bit, 2.5MHz to 42MHz DC-Balanced LVDS Deserializers

Grade 3

48-Lead TQFP

Anam, Bupyang Korea

			Lot # 1 (QS30BQ001D)			Family Data Lot # 2 (QUU0CQ003C)			Family Data Lot # 3 (QS40AQ001B)			Family Data - Process Lot # 4 (QR31BQ001A)			Family Data - Process Lot # 5 (Q43ACQ002B)			Family Data - Process Lot # 6 (QBUZAQ001B)		
Maxim Part Number			MAX9250ECM+			MAX9218ECM+			MAX9247ECM+			MAX9244EUM			MAX1499EHJ			MAX9254EUM+		
Description			AEC-Q100			AEC-Q100			AEC-Q100			AEC-Q100			AEC-Q100			AEC-Q100		
Operating Temperature			-40C to +85C			-40C to +85C			-40C to +85C			-40C to +85C			-40C to +85C			-40C to +85C		
Fab Location			TSMC Fab 9			TSMC Fab 9			TSMC Fab 9			TSMC Fab 9			TSMC Fab 9			TSMC Fab 9		
Fab Process			.35um 1P4M			.35um 1P4M			.35um 1P4M			.35um 1P4M			.35um 2P4M			.35um 1P4M		
Die			HS48Z			HS33Z			HS47Z			HS39Z-1Z			AC12Y			HS60Z		
Assembly Location			Anam Bupyang (Korea)			Anam Bupyang (Korea)			Anam Bupyang (Korea)			Anam/Amkor Philippines			Carsem-S Malaysia			Anam/Amkor Philippines		
Die Size (mils)			134 X 117			90 x 100			99 X 119			108 x 159			85 x 87			108 x 159		
Package			48-Lead TQFP			48-Lead TQFP			48-Lead TQFP			48-Lead TSSOP			32-Lead TQFP			48-Lead TSSOP		
Wire Bond Material			Au .001"			Au .001"			Au .001"			Au .001"			Au .001"			Au .001"		
Die Coat			None			None			None			None			None			None		
Mold Compound			G700L			G700L			G700L			G700K			EME7320CR			G700K		
Die Attach			8361J			8361J			8361J			8290			84-1LMISR4			8290		
Lead Frame			Copper			Copper			Copper			Copper			Copper			Copper		
Lead Finish			100% Matte Sn			100% Matte Sn			100% Matte Sn			85/15 Sn/Pb			85/15 Sn/Pb			100% Matte Sn		
Reliability Lot Number			A060041, DC 0625			A050043, DC 0545			A060042, DC 0545			A050038, DC 0551			A050009, DC 0518			A060034, DC 0630		
			Failures/Sample Size			**Failures/Sample Size**			**Failures/Sample Size**			**Failures/Sample Size**			**Fails/Sample Size**			**Failures/Sample Size**		
AEC-Q100 Rev. F Tests	**#**	**Conditions**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb)																		
		260C (100% Sn)	0/250			0/215			0/249											
=>CSAM - PC - CSAM		J-STD-020C (1 lot)	0/22			0/22			0/22											
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours																		
Biased HAST (HAST)	A2	130C/85%RH 96 Hours	0/50	0/50		0/49	0/49		0/50	0/50										
Autoclave (AC)	A3	121C/85%RH 168 Hours																		
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/80	0/80		0/49	0/49		0/79	0/79										
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/80	0/80		0/79	0/79		0/80	0/80										
=>Post TC Wirebond Pull (WBP)		>3 grams	0/144			0/200			0/144											
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/80	0/80		0/80	0/80		0/80	0/80										
High Temperature Op Life (HTOL)	B1	+115C 1000 Hours				0/46	0/46	0/46				0/80	0/80	0/80				500 Hrs. 0/77	500 Hrs. 0/77	500 Hrs. 0/77
Early Life Failure Rate (ELFR)	B2	+115C 48 Hours										0/800	0/800		0/845	0/845				
Wire Bond Shear (WBS)	C1		(Note 3)			(Note 3)			(Note 3)											
Wire Bond Pull (WBP)	C2		(Note 3)			(Note 3)			(Note 3)											
Solderability (SD)	C3		0/15			0/15			0/15											
Physical Dimensions (PD)	C4		0/10			0/10			0/10											
Lead Integrity (LI)	C6		0/5			0/5			0/5											
(EM, TDDB, HCI)	D1-3		TSMC			TSMC			TSMC			TSMC			TSMC			TSMC		
Pre- and Post-Stress Electrical (TEST)	E1		All	All	All	All	All	All	All	All	All	All	All	All	All	All		All	All	All
Human Body Model ESD (HBM)	E2	JESD22/A114	2500V																	
Machine Model ESD (MM)	E2	JESD22/A115																		
Charged Device Model ESD (CDM)	E3	AEC-Q100-011	1000V																	
Latch-Up (LU)	E4	JESD78, Class	0/12																	
Preconditioned																				

(Note 3) Monitor data from assembly subcontractor.