

Automotive Qualification Report
MAX9218ECM+

**27-Bit,
3MHz-to-35MHz
DC-Balanced
LVDS Deserializer**

Grade 3

48-Lead TQFP

		○	✓	✓	✓	✓	✓	✓	✓										
		Lot # 1 (QUU0CQ003C)	Lot # 2 (QFE0AQ003C)	Lot # 3 (QWB2AQ001A)	Lot # 4 (QR31BQ001A)	Lot # 5 (I8XABAQ002A)	Lot # 6 (Q43ACQ001B)												
Maxim Part Number		MAX9218ECM+	MAX9209EUM	MAX9234EUM	MAX9244EUM	MAX5167LCCM+ (Note 2)	MAX1499EHJ												
Description (Note 1)		AEC-Q100	AEC-Q100	AEC-Q100	AEC-Q100	Maxim	Maxim												
Operating Temperature		-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		TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	TSMC Fab 9	Maxim, San Jose	TSMC Fab 9												
Fab Process		.35um 1P4M	.35um 2P4M	.35um 1P4M	.35um 1P4M	S12, 6" 1.2 um CMOS	.35um 2P4M												
Die		HS33Z	HS30Z	HS37Z-2Z	HS39Z-1Z	DA88Y	AC12Y												
Assembly Location		Anam Bupyang (Korea)	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam/Amkor Philippines	Anam Bupyang (Korea)	Carsem-S Malaysia												
Die Size (mils)		90 x 100	88 x 117	97 x 139	108 x 159	181 x 179	85 x 87												
Package		48-Lead TQFP	48-Lead TSSOP	48-Lead TSSOP	48-Lead TSSOP	48-Lead TQFP	32-Lead TQFP												
Wire Bond Material		Au .001"	Au .001"	Au .001"	Au .001"	Au .001"	Au .001"												
Mold Compound		G700L	G700K	G700K	G700K	G700L	EME7320CR												
Die Attach		8361J	8290	8290	8290	8361J	84-1LMISR4												
Lead Frame		Copper	Copper	Copper	Copper	Copper	Copper												
Lead Finish		100% Matte Sn	85/15 Sn/Pb	85/15 Sn/Pb	85/15 Sn/Pb	100% Matte Sn	85/15 Sn/Pb												
Reliability Lot Number		A050043, DC 0545	A050002, DC 0451	A050012, DC 0534	A050038, DC 0551	R030070A, DC 0317	R020068B, DC 0309												
		Failures/Sample Size			Failures/Sample Size			Failures/Sample Size											
AEC-Q100 Rev. F Tests		#	Conditions			+25C	+85C	-40C											
MSL 3 - Preconditioning (PC)		A1	240C (Sn/Pb)			0/215													
			260C (100% Sn)			0/215					0/450								
=>CSAM			J-STD-020C (1 lot)			0/22													
Temperature Humidity-Bias (THB)		A2	85C/85%RH 1000 Hours																
Biased HAST (HAST)		A2	130C/85%RH 96 Hours	Pending /48	Pending /48														
Autoclave (AC)		A3	121C/85%RH 168 Hours									0/231							
Unbiased HAST (UHAST)		A3	130C/85%RH 96 Hours	0/49	0/49														
Temperature Cycle (TC)		A4	-65 to +150C 1000 Cycles	0/79	0/79							0/231							
=>Wirebond Pull (WBP)			>3 grams	0/200															
High Temperature Storage (HTSL)		A6	+150C 1000 Hours	0/79	0/79							0/231							
High Temperature Op Life (HTOL)		B1	+115C 1000 Hours	Pending /48	Pending /48	Pending /48													
Early Life Failure Rate (ELFR)		B2	+115C 24 Hours															(Note 4) 0/845	(Note 4) 0/845
Maxim Infant Mortality Evaluation			+135C 12 Hours															0/2637	
Wire Bond Shear (WBS)		C1		(Note 3)															
Wire Bond Pull (WBP)		C2		(Note 3)															
Solderability (SD)		C3		0/15								0/45							
Physical Dimensions (PD)		C4		0/10								0/45							
Lead Integrity (LI)		C6		0/5								0/45							
(EM, TDDb, HCl)		D1-3		TSMC															
Pre- and Post-Stress Electrical (TEST)		E1		All	All	All	All	All	All	All	All	All	All	All	All	All	All	All	All
Human Body Model ESD (HBM)		E2	JESD22/A114	1000V	1000V														
Machine Model ESD (MM)		E2	JESD22/A115																
Charge Device Model ESD (CDM)		E3	AEC-Q100-011	Pending	Pending														
Latch-Up (LU)		E4	JESD78, Class II	Pending /12	Pending /12														

(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.

(Note 4) Data from Lot Q43ACQ002B, Ta = 135C, per AEC-Q100 ELFR requirements.

✓ = Complete

□ = Open