DALLAS SEMICONDUCTOR MAXIM

Automotive Qualification Report

MAX1575ETE

White LED 1x / 1.5x Charge Pump for Main and Sub-Displays

Grade 3

16-Lead TQFN 4 x 4 mm

			○			✓			✓			✓			✓			✓		
			Lot # 1 (TJZ0C3026A)			Lot # 2 (T9DAKQ002A/A006EB)			Lot # 3 (T0BAGA032A)			Lot # 4 (QOL0CQ003C)			Lot # 5 (QIO0BQ002E)			Lot # 6 (SWA0BQ001Q)		
		Maxim Part Number	**MAX1575ETE**			MAX1607ESA			MAX1977EEI			MAX1479ATE			MAX1471ATJ			MAX8620YETD+ (Note 2)		
		Description (Note 1)	**AEC-Q100**			Maxim			Maxim			AEC-Q100			AEC-Q100			Maxim		
		Operating Temperature	**-40 to +85C**			-40C to +85C			-40C to +85C			-40 to +125C			-40 to +125C			-40C to +85C		
		Temperature Grade	**3**			3			3			1			1			3		
		Fab Location	**Maxim, San Antonio**			Maxim, San Antonio			Maxim, San Antonio			TSMC Fab 9			TSMC Fab 9			Maxim, San Jose		
		Fab Process	**B8 (8", 0.8 um MOS)**			B8 (8", 0.8 um MOS)			B8 (8", 0.8 um MOS)			.35um 2P3M			.35um 2P3M			B8 (8", 0.8 um MOS)		
		Die	**PN34Y**			PX70X			PX65X			SC79Z			SC71Z			PN95Z		
		Assembly Location	**NSEB Thailand**			NSEB Thailand			NSEB Thailand			NSEB Thailand			NSEB Thailand			NSEB Thailand		
		Die Size (mils)	**88 x 88**			87 x 58			86 x 169			55 x 53			90 x 78			70 x 94		
		Package	**16-Lead TQFN (4x4)**			8 NSOIC			28 QSOP			16-Lead TQFN (3x3)			32-Lead TQFN (5x5)			14-Lead TDFN (3x3)		
		Wire Bond Material	**Au .001"**			Au .0013"			Au .001"			Au .001" (w/down bond)			Au .001" (w/down bonds)			Au .013"		
		Mold Compound	**G770HC**			EME6300H			EME6600CS			G770HC			G770HC			G770HC		
		Die Attach	**AB8200T**			84-1LMISR4			84-1LMISR4			AB8200T			AB8200T			AB8200T		
		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			100% Matte Sn		
		Reliability Lot Number	A050008, DC 0518			R040031A/D, 0423			R040031B, DC 0423			A050007, DC 0519			A05005, DC 0517			R050019FQ, DC 0447		
			Failures/Sample Size			**Failures/Sample Size**			**Failures/Sample Size**			**Failures/Sample Size**			**Failures/Sample Size**			**Failures/Sample Size**		
AEC-Q100 Rev. F Tests	**#**	**Conditions**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**	**+25C**	**+85C**	**-40C**	**+25C**	**+125C**	**-40C**	**+25C**	**+125C**	**-40C**	**+25C**	**+85C**	**-40C**
MSL 1 - Preconditioning (PC)	A1	240C (Sn/Pb)	0/212									0/212			0/215					
		260C (100% Sn)																0/350		
=>CSAM		J-STD-020C (1 lot)	0/22									0/22			0/22					
Temperature Humidity-Bias (THB)	A2	85C/85%RH 1000 Hours	Pending 48	Pending 48																
Biased HAST (HAST)	A2	130C/85%RH 96 Hours				0/90			0/44			0/43	0/43		0/47	0/47		0/134		
Autoclave (AC)	A3	121C/85%RH 168 Hours				0/154			0/77									0/231		
Unbiased HAST (UHAST)	A3	130C/85%RH 96 Hours	0/45	0/45								0/80	0/80		0/80	0/80				
Temperature Cycle (TC)	A4	-65 to +150C 1000 Cycles	0/77	0/77		0/154			0/77			0/80	0/80		0/80	0/80		0/231		
=>Wirebond Pull (WBP)		>3 grams	0/85									0/85			0/160					
High Temperature Storage (HTSL)	A6	+150C 1000 Hours	0/80	0/80		0/154			0/76			0/80	0/80		0/78	0/78		0/231		
High Temperature Op Life (HTOL)	B1	+135C 1000 Hours	0/48	0/48	0/48	0/160			0/43			0/48	0/48	0/48	0/48	0/48	0/48	0/135		
Early Life Failure (ELFR)	B2	+135C 48 Hours																		
Maxim Infant Mortality (IME)		+135C 12 Hours				0/8995														
Wire Bond Shear (WBS)	C1		(Note 3)									(Note 3)			(Note 3)					
Wire Bond Pull (WBP)	C2		(Note 3)									(Note 3)			(Note 3)			0/614		
Solderability (SD)	C3		0/15									0/15			0/15			0/45		
Physical Dimensions (PD)	C4		0/15									0/10			0/10					
Lead Integrity (LI)	C6		N/A									N/A			N/A					
(EM, TDDB, HCI)	D1-3											TSMC			TSMC					
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	JESD22/A114	2000V	2000V																
Machine Model ESD (MM)	E2	JESD22/A115																		
Charge Device Model ESD (CDM)	E3	AEC-Q100-011	750V	750V																
Latch-Up (LU)	E4	JESD78, Class I	0/6	0/6																

(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