

VSC7161HK/XHK FIRST LEVEL PRODUCT QUALIFICATION REPORT

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Manufacturer:	Vitesse		
Device Type:	VSC7161HK/XHK		
Fab:	TSMC	Process:	0.18μm CMOS
Assembler:	Amkor - K3	Package Type:	e-Pad LQFP
Test Location:	Camarillo, CA		

1.0 Package

1.1 Package Type	e-Pad LQFP
1.2 Pin/Lead Count	176
1.3 Body Dimensions	20 x 20 x 1.4 mm
1.4 Cavity Orientation	Down
1.5 Lead Frame Material	C194 ESH
1.6 Lead Frame P/N / Pad Size	SID# 101336784
1.7 Lead Finish	Matte Sn for XHK and 85Sn/15Pb for HK
1.8 Die Attach Epoxy	Ablestik 3230
1.9 Bond Wire Material	Au
1.10 Mold Compound	G700L
1.11 Moisture Sensitivity Level	MSL 3

2.0 Wafer/Die

2.1 Technology	0.18μm CMOS
2.2 Die Dimensions	7048.96 x 6648.69 μm
2.3 Metallization Material	Al, Cu 0.5%
2.4 Metallization Layers	6
2.5 Dielectric Material	SiO ₂
2.6 Passivation Material	Polyimide

3.0 Qualification Information

Table 1: Summary of Device Qualification Results

Test	Conditions	Quantity	Results	Notes
3.1 Temperature Humidity Biased (THB)	JESD22-A101, 85°C/85%R.H., 1000 hours, with preconditioning per J-STD 020A including 3 passes of IR reflow @ 260C	45	All Passed	A

3.0 Qualification Information (continued)

Table 1 Cont'd: Summary of Device Qualification Results

Test	Conditions	Quantity	Results	Notes
3.2 Temperature Cycle (TC)	MS883, Method 1010, Condition C (-65°C to 150°C), 500 cycles, with preconditioning per J-STD 020 including 3 passes of IR reflow @ 260C	45	All Passed	A
3.3 High Temperature Operating Life	MS883, Method 1005, Tj=140°C, 1000 hours	45	All Passed	B
3.4 ESD Testing (HBM)	JESD22-A114, +/- 1000 V	3	All Passed	B
3.5 ESD Testing (CDM)	JESD22-C101, +/- 600 V	2	All Passed	B
3.6 Latch up	JESD78	6	All Passed	B

Notes:

- A THB and TC qual vehicles were 7160XRW with downbonds
- B Qualification by similarity to VSC7160RW (similar die)

4.0 Reliability Data

The reliability results are documented in the “TSMC 0.18um CMOS Reliability Report”, report number: VQUR-00239