

Standard	Bridge ASIC Reliability Report (Tentative)	No.	
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(Tentative)

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<div><div><div>Test Device Information</div><div><div>Package : 48 ball CSP (Ball pitch 0.8mm)</div><div>Process : TSMC 40LP</div></div></div><div><div>Contents</div><div><div><div>1. High Temperature Operating Life (HTOL) Test</div><div>2. High Temperature Storage Life (HTSL) Test</div><div>3. Precondition (PC) Test</div><div>4. Temperature Cycle (TCT) Test</div><div>5. Highly-Accelerated Temperature and Humidity Stress (HAST) Test</div><div>6. Electrostatic Discharge (ESD) Test</div><div>7. Latch-Up (LUT) Test</div></div><div><div>page</div><div>- 3 -</div><div>- 3 -</div><div>- 3 -</div><div>- 3 -</div><div>- 3 -</div><div>- 4 -</div><div>- 4 -</div></div></div></div></div>			

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<u>Bridge ASIC Reliability Test Results</u>					
Test Item		Test Method, Conditions	Reference standard	Sample Size	Results Reject/SS
1. High Temperature Operating Life (HTOL) Test		125°C/1000hours	JEITA ED4701-101A	77 3Lot	0/77 0/77 0/77
2. High Temperature Storage Life (HTSL) Test		150°C/500hours	JESD22-A103E	77 3Lot	0/77 0/77 0/77
3. Precondition (PC) Test		1. TCT(-65°C ↔ 150°C) x 10Cycles 2. Bake (125°C)/24hours 3. THT (30°C/60% Relative humidity)/192hours 4. IR Re-flow (T _{peak} =260°C) x 3cycles	JESD22-A113G	250 3Lot	0/250 0/250 0/250
4. Temperature Cycle (TCT) Test		-65°C/1min ↔ 150°C/1min x 500cycles (after PC)	JESD22-A104E	77 3Lot	0/77 0/77 0/77
5. Highly-Accelerated Temperature and Humidity Stress (HAST) Test		130°C/85% relative humidity/ 96hours (after PC)	JESD22-A110E	77 3Lot	0/77 0/77 0/77

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<u>Bridge ASIC Reliability Test Results (cont'd)</u>					
Test Item	Test Method, Conditions	Reference standard	Sample Size	Results Reject/SS	
6. Electrostatic Discharge (ESD) Test	[Human Body Model (HBM)] 100pF, 1.5Kohm, 1500V	JESD22- A114F	3 1Lot	0/3	
	[Charge Device Model (CDM)] 750V	JESD22- C101F	3 1Lot	0/3	
7. Latch-Up (LUT) Test	[voltage pulse] VDDIO_OTP/VD DPST = 3.6V to 5.4V CVDD/AVDD_K DFS = 1.21V to 1.81V (at 85°C)	JESD78D	3 1Lot	0/3	
	[current pulse] PI/NI ±250mA (at 85°C)	JESD78D	6 1Lot	0/6	