

Echelon Corporation Package Qualification Report

RoHS Compliant FTT-10A

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Component-Level Tests

FTT-10A

Test	Conditions	Sample Size	Results
HALT	85°C, 85% R.H.	240	0 failures
	1000 hours		
HASS	-50 to +95°C	60	0 failures
	10°C/minute		
	59-minute dwells		
	50 hours		
Tin Whiskers	N/A. (Leads are dipped in		
	tin, which sits on a barrier		
	layer of nickel. Tin		
	whiskers are a concern for		
	electroplated tin, not dipped		
	tin.)		

Second-Level Interconnect Tests

FTT-10A*

Test	Conditions	Sample Size	Results
HALT	85°C, 85% R.H.	24	0 failures
	1000 hours		
HASS	-50 to +95°C	20	0 failures
	10°C/minute		
	59-minute dwells		
	50 hours		
Second-Level	0 to +90°C	40	0 failures found:
Interconnect	1.45 cycles/hour		-Functional test
Temperature Cycling	5-minute dwells		-Cross-sections**
	1000 cycles		
	with Sn-Ag-Cu Solder		
Second-Level	0 to +90°C	5	0 failures found:
Interconnect	1.45 cycles/hour		-Functional test
Temperature Cycling	5-minute dwells		-Cross-sections**
(for backward	1000 cycles		
compatibility in non-	with Sn-Pb Solder		
RoHS processes)			

*Testing was performed on a product similar to the FTT-10A in construction and materials. The similarity allows the data to be shared between the two products.

**Results based on a sampling of the total units tested.

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