

i7C Series

RELIABILITY DATA

信頼性データ

* 試験結果は、代表データではありますが、全ての製品はほぼ同等な特性を示します。

従いまして、以下の結果は参考値とお考え願います。

Test results are typical data. Nevertheless the following results are considered to be reference data because all units have nearly the same characteristics.

TDK-Lambda

Qualification Report Summary for: I7C platform			
Sample universe: Units manufactured at TDK-Lambda - Malaysia, Lots: i7C4W008A120V-003 Lot 1905M, i7C4W008A120V-001 Lot 1908M, 1942M, i7C4W008A120V-0F1 Lot 1927M, i7C4W012A050V-001 lot 003MG1, and i7C4W008A120V-0C1-R Lot 052M35			
	Samples	Failures	Notes
Visual Inspection			
Inspect for quality and workmanship	45	0	
Dimension check			
Inspect physical dimensions against mechanical requirements	45	0	
Initial characterization			
Measurements of all applicable tests of manufacturing test requirements.	45	0	
HALT Low Temperature Limits Test - IPC9592B D.1.1.1			
Decrease temperature until UUT is out of regulation	3	0	
HALT High Temperature Limits Test - IPC9592B D.1.1.2			
Increase temperature until UUT is out of regulation	3	0	
HALT Input Voltage Test - IPC9592B D.1.1.5			
Increase input voltage until UUT is out of regulation. This test is performed at both low temperature -50°C (found in D.1.1.1) and high temperature 90°C (found in D.1.1.2)	3	0	
HALT Output Load Test - IPC9592B D.1.1.6			
Increase output load until UUT is out of regulation at high temperature 90 °C (found in D.1.1.2)	3	0	
HALT Combined Stress Test (CST) - IPC9592B D.1.1.7			
Operate the device while combining the environmental effects of random vibration and rapid thermal cycling along with input voltage and output load transients.	3	0	(1)
Temperature Humidity Bias (THB) - IPC9592B 5.2.4.1			
Samples are exposed to 85% relative humidity at a temperature of 85°C. Input voltage is at high line (53V) and minimum output load. Output voltage is monitored every minute.			
1000 hours	30	0	
Life Test - High Temperature Operating Bias (HTOB) IPC9592B 5.2.5			
UUT's are loaded at full load. Ambient temperature is set stabilize the "hot spot" Tref point at approximately 95°C. Input power cycle was performed (minutes): 42 on, 1 off, 1 on, 1 off, 1 on, 1 on, 1 off, 1 on, 1 on, 1 off, 10 off. Input voltage was changed from High Line to Low Line every hour.			
1000 hours	30	0	
Temperature Cycling Test (TCT) - IPC9592B 5.2.6³			
Samples exposed in an air-to-air thermal shock chamber between temperatures of -40 to 125°C at a ramp rate of approximately 60°C per minute. Dwell time at each extreme is 30 minutes. After approximately every 100 cycles, all parts are visually check and tested with the full complement of tests including, but not limited to efficiency, Ripple, Line regulation, and Load regulation.			
700 thermal cycles	30	0	
Power and Temperature Cycle (PTC) - IPC9592B 5.2.7			
Samples exposed to a combined power thermal cycling at 8 amps output load. The reference temperature range is approximately -40° C to 98° C. The dwell time at each temperature is approximately 30 minutes. The thermal ramp rate is approximately 15°C to 25°C per minute. Each line cycle is low line (10V), nominal line (30V), high line (53V) 60 seconds each and line off 60 seconds.			
100 thermal cycles	3	0	
Random Vibration - Operating - IPC9592B 5.2.9			
Tested per IEC 60068-2-64 called out in IPC-9592B. The test units were subjected to 10 Hz to 30Hz at 0.1 (m/s ²)/Hz, 30 Hz to 200 Hz at 2.0 (m/s ²)/Hz, and 200 Hz to 500 Hz at 0.2 (m/s ²)/Hz. The test duration was 30 minutes at 23.5308 RMS (m/s ²) for one half hour per axis in 3 axes. Test was performed with highest mass module: i7C4W008A120V-0F1	3	0	
Shock - Operating - IPC9592B 5.2.11			
Tested per IEC 60068-2-27 called out in IPC-9592B. The test units were exposed to a 30 G, 11 ms, half sine wave shape with three shocks in each direction for a total of 18 shocks. Test was performed with highest mass module: i7C4W008A120V-0F1	3	0	
Shipping Package Test - ISTA2A			
Shipping container test (carton = 30 pieces) Test was performed with highest mass packaging: i7C4W008A120V-0C1	1 ctg	0	
Notes			CAR
(1) CST is not a pass/fail test. Test was performed with highest mass module: i7C4W008A120V-0F1 Lot 1927M. Two units survived until 35GRMS and one unit survived until 25GRMS.			N/A
Approved: Robert Terry - Representative of Qualification and Test - 06/24/2020			