iJB Series

RELIABILITY DATA

信頼性データ

Qualification Report Summary for: iJB12060A006V-001-R	Samples	Failures	Notes
Visual Inspection			
Inspect for quality and workmanship	70	0	
Dimension check			
Inspect physical dimensions against mechanical requirements	1	0	
Initial characterization			
Measurements of all applicable tests of manufacturing test requirements.	69	0	
HALT Low Temperature Limits Test - IPC9592A D.1.1.1			
Decrease temperature until UUT is out of regulation	3	na	1)
HALT High Temperature Limits Test - IPC9592A D.1.1.2			
Increase temperature until UUT is out of regulation	3	na	1)
HALT Random Vibration Limits Test - IPC9592A D.1.1.3			
Increase vibration until UUT is out of regulation	3	na	1)
HALT Input Voltage Test - IPC9592A D.1.1.5			
Increase input voltage until UUT is out of regulation. This test is performed at both low temperature -55°C (found in D.1.1.1) and high temperature 90°C (found in D.1.1.2)	3	na	1)
HALT Output Load Test - IPC9592A 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	na	1)
HALT Combined Stress Test - IPC9592A 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.	2	na	1 & 2)
Temperature Humidity Bias (THB) - IPC9592A 5.2.4.1			
Samples are preconditioned for 168 hours at 85°C/85%RH and two reflows. Samples are exposed to 85% relative humidity at a temperature of 85°C. Input voltage is at high line (14V) and no output load. Output voltage is measured every minute.	6	0	
1000 hours			
Life Test - High Temperature Operating Bias (HTOB) - IPC9592A 5.2.5			
Samples are preconditioned for 168 hours at 85°C/85%RH and two reflows. UUT's are loaded at 95% of full load. Ambient temperature is set stabilize the "hot spot" Tref point at approximately 95°C			
1000 hours	30	0	
Temperature Cycling Test (TCT) - IPC9592A 5.2.6 [2]			
Samples are preconditioned for 168 hours at 85°C/85%RH and two reflows. 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 15 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			
800 thermal cycles	15	0	
Power and Temperature Cycle (PTC) - IPC9592A 5.2.7			
Samples are preconditioned for 168 hours at 85°C/85%RH and two reflows. Samples exposed to a combined power thermal cycling at 60 amps output load. The reference temperature range is approximately -40°C to 95°C. The dwell time at each temperature is approximately 18 minutes.			
ramp rate is approximately 15°C to 25°C per minute. Each line cycle is low line (8V), nominal line (12V), high line (14V) 60 seconds each and line off 60 seconds.			
100 thermal cycles	5	0	
Random Vibration Operating [1]			
Unpowered, 5 to 100 Hz at 1.0G, three axis, two sweeps each.	3	0	
Shock Operating [1]			
Unpowered, 100G Sawtooth 6ms, three axis, Three shocks were applied in each direction.	3	0	

Notes	CAR
1) HALT tests do not have a pass fail limit. They are a marginally test. 2) One module failed at 45Grms which is well above the required limit.	
Passed: Michael Hay - Representative of Qualification and Test - Date Here	

1. Full functional pre and post test in lieu of operating test
2. Test dwell time customized to package