Project Number: Pull out and Torque Force Test Report	Tracking Code: 1155176_Report_Rev_1
Requested by: John Crawford	Date: 5/19/2017
Part #: JSO-0715-01	
Part description: JSO	Tech: Troy Cook
Test Start: 5/16/2017	Test Completed: 5/16/2017

PULL OUT AND TORQUE FORCE TEST REPORT

JSO

JSO-0715-01

REVISION HISTORY

DATA	REV.NUM.	DESCRIPTION	ENG
5/19/2017	**1**	**Initial Issue**	**KH**

CERTIFICATION

All instruments and measuring equipment were calibrated to National Institute for Standards and Technology (NIST) traceable standards according to IS0 10012-l and ANSI/NCSL 2540-1, as applicable.

SCOPE

To perform the following tests: Pull out force and Torque test. Please see test plan.

APPLICABLE DOCUMENTS

Standards: EIA Publication 364

TEST SAMPLES AND PREPARATION

1) All materials were manufactured in accordance with the applicable product specification.
2) All test samples were identified and encoded to maintain traceability throughout the test sequences.
3) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
4) The automated procedure is used with aqueous compatible soldering materials.
5) Any additional preparation will be noted in the individual test sequences.

FLOWCHARTS

Pull Out Force

Note: Pull out force will be tested using three separate PCB options, SK-PCB-TEST-01/-19/-20, the differences being the diameter of the holes for the JSO assemblies.

Group 1 JSO-0715-01 SK-PCB-TEST-01 0.250 Diameter PCB		Group 2 JSO-0715-01 SK-PCB-TEST-19 0.239 Diameter PCB		Group 3 JSO-0715-01 SK-PCB-TEST-20 0.251 Diameter PCB	
Step	**Description**	**Step**	**Description**	**Step**	**Description**
1.	Pull Out Force *Note: Tesing was performed using SK-PCB-TEST-01 which is a .062 thick PCB with 0.250 inch diameter holes.*	1.	Pull Out Force *Note: Tesing was performed using SK-PCB-TEST-19 which is a .062 thick PCB with 0.239 inch diameter holes.*	1.	Pull Out Force *Note: Tesing was performed using SK-PCB-TEST-20 which is a .062 thick PCB with 0.251 inch diameter holes.*

Torque

Note: Torque will be tested using SK-PCB-TEST-01 which has a 0.250 inch diameter hole.

Group 1
JSO-0715-01
SK-PCB-TEST-01
0.250 Diameter PCB

Step	Description
1.	Torque Force *Note: Tesing was performed using SK-PCB-TEST-01 which is a .062 thick PCB with 0.250 inch diameter holes.*

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

PULL OUT FORCE:

1) Secure connector near center and pull on connector

TORQUE:

1) Record the peak forces required to break the JSO free.

RESULTS

Pull out force:

HOLE DIA 0.2390 inch

Min ----------142.45 lbs
Max----------152.90 lbs

HOLE DIA 0.2510 inch

Min ----------117.13 lbs
Max----------121.34 lbs

HOLE DIA 0.2500 inch

Min ----------128.45 lbs
Max----------136.98 lbs

Torque force:

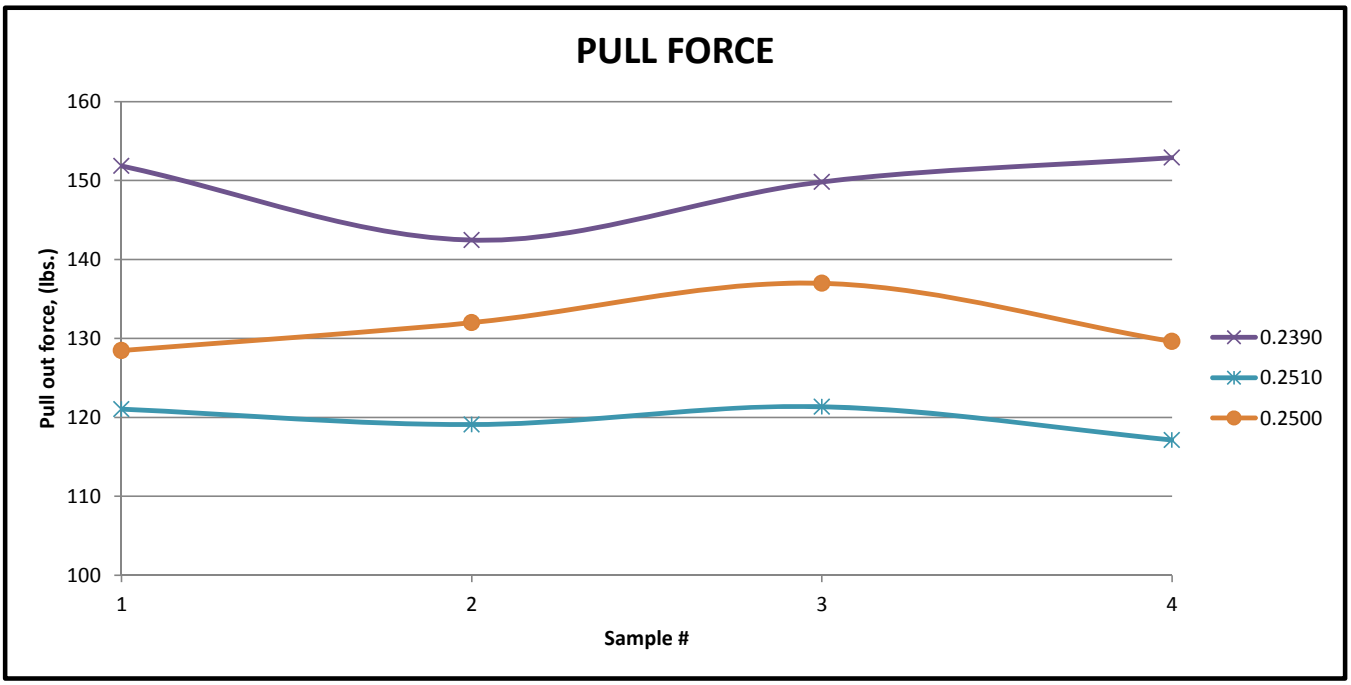
HOLE DIA 0.2500 inch

Min ----------62.08 in-lbs
Max----------67.93 in-lbs

DATA SUMMARIES

Pull out force and Torque:

	JSO			
	PULL FORCE (lbs.)			TORQUE (in-lbs.)
HOLE DIA.	***0.2390***	***0.2510***	***0.2500***	***0.2500***
1	151.85	121.04	128.45	62.08
2	142.45	119.08	131.99	67.93
3	149.83	121.34	136.98	63.11
4	152.90	117.13	129.60	64.94
AVG	149.26	119.65	131.76	64.52
MIN	142.45	117.13	128.45	62.08
MAX	152.90	121.34	136.98	67.93
ST DEV	4.71	1.95	3.78	2.57



EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: TCT-04
Description: Dillon Quantrol TC2 Test Stand
Manufacturer: Dillon Quantrol
Model: TC2
Serial #: 04-1041-04
Accuracy: Speed Accuracy: +/- 5% of indicated speed; Displacement: +/- 5 micrometers.
… Last Cal: 05/21/2016, Next Cal: 05/21/2017