Project Number:	Tracking Code: TC0720--1352		
Requested by: Jeff Schreck	Date: 5/16/2007	Product Rev: B	
Part #: HFHM2-020-T-05.00-DP	Lot #: TBD	Tech: Troy Cook	Eng: Troy Cook
Part description: HFHM2-DP	Qty to test: 2		
Test Start: 05/16/2007	Test Completed: 7/27/2007		

Current Carrying Capacity Report

PART DESCRIPTION

HFHM2-020-T-05.00-DP

Mated with QSH-DP/QTH-DP

CERTIFICATION

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

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SCOPE

To perform the following tests: CCC

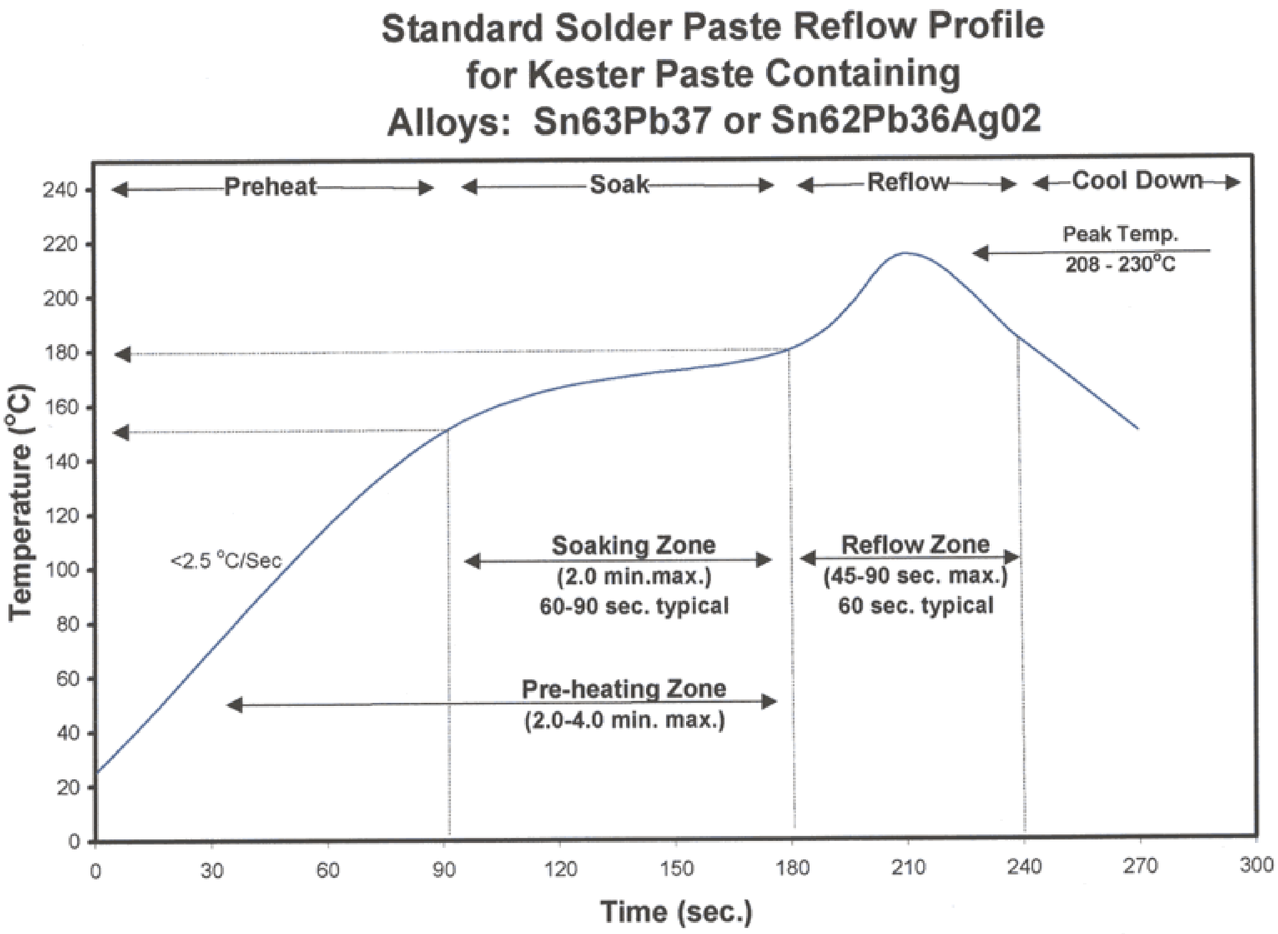
APPLICABLE DOCUMENTS

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) After soldering, the parts to be used for LLCR and DWV/IR testing were cleaned according to TLWI-0001.
4) Either an automated cleaning procedure or an ultrasonic cleaning procedure may be used.
5) The automated procedure is used with aqueous compatible soldering materials.
6) Parts not intended for testing LLCR and DWV/IR are visually inspected and cleaned if necessary.
7) Any additional preparation will be noted in the individual test sequences.
8) Solder Information: Lead Free
9) Re-Flow Time/Temp: See accompanying profile.
10) Samtec Test PCBs used: PCB-100800-TST-XX

TYPICAL OVEN PROFILE (Soldering Parts to Test Boards)


Standard Solder Paste Reflow Profile for Kester Paste Containing Alloys: Sn63Pb37 or Sn62Pb36Ag02

ATTRIBUTE DEFINITIONS

The following is a brief, simplified description of attributes.

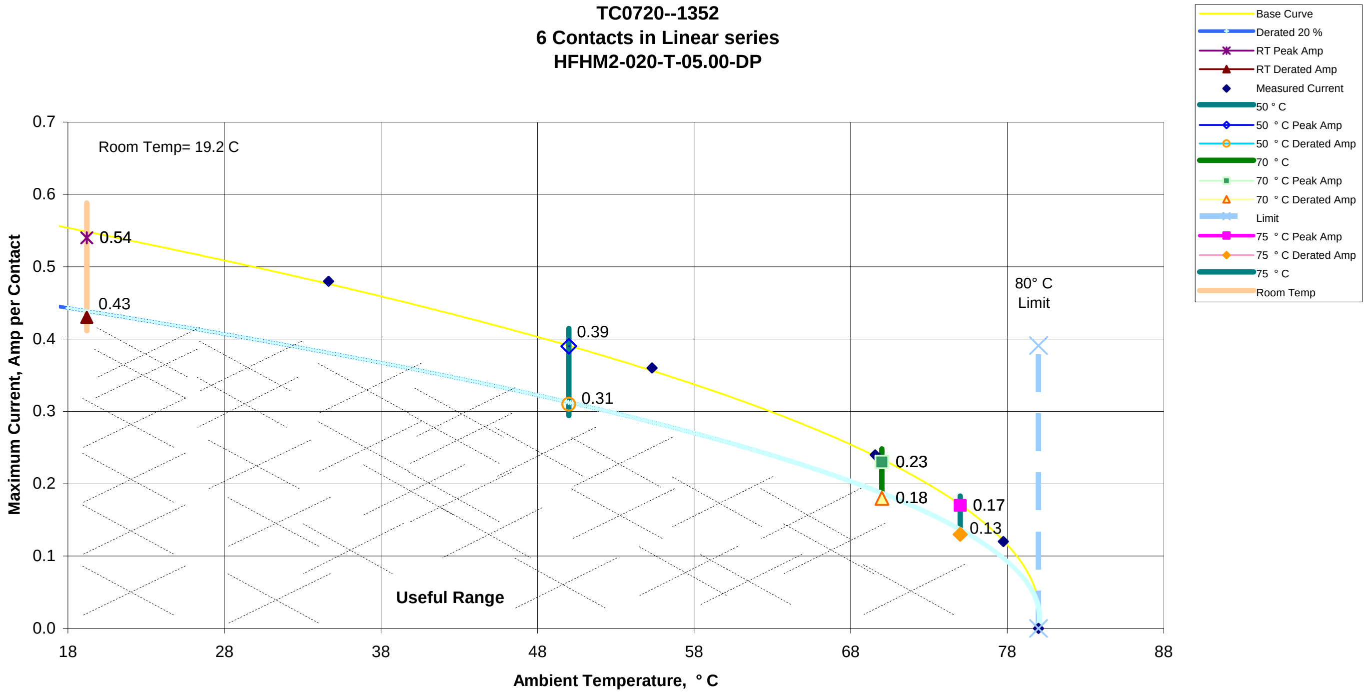
TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) EIA-364-70, *Temperature Rise versus Current Test Procedure for Electrical Connectors and Sockets*.
2) When current passes through a contact, the temperature of the contact increases as a result of I^2R (resistive) heating.
3) The number of contacts being investigated plays a significant part in power dissipation and therefore temperature rise.
4) The size of the temperature probe can affect the measured temperature.
5) Copper traces on PC boards will contribute to temperature rise:
    a. Self heating (resistive)
    b. Reduction in heat sink capacity affecting the heated contacts
6) A de-rating curve, usually 20%, is calculated.
7) Calculated de-rated currents at three temperature points are reported:
    a. Ambient
    b. 50^o C
    c. 70^o C
    d. 80^o C
8) Typically, neighboring contacts (in close proximity to maximize heat build up) are energized.
9) The thermocouple (or temperature measuring probe) will be positioned at a location to sense the maximum temperature in the vicinity of the heat generation area.
10) A computer program, *TR 803.exe*, ensures accurate stability for data acquisition.
11) Hook-up wire cross section is larger than the cross section of any connector leads/PC board traces, jumpers, etc.
12) Hook-up wire length is longer than the minimum specified in the referencing standard.

RESULTS

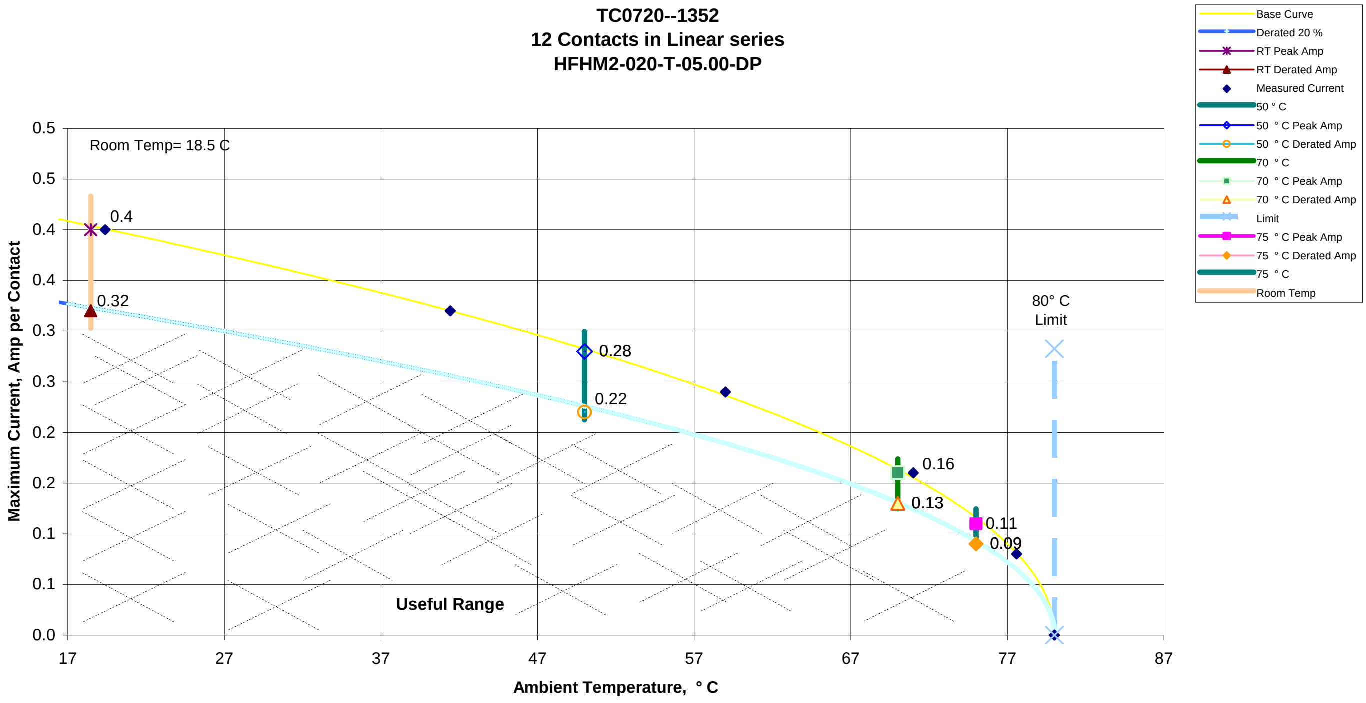
Temperature Rise, CCC at a 20% de-rating

- **CCC for a 30°C Temperature Rise -----------------------.31A per contact with 6 contacts powered in a Linear Series**



Temperature Rise, CCC at a 20% de-rating

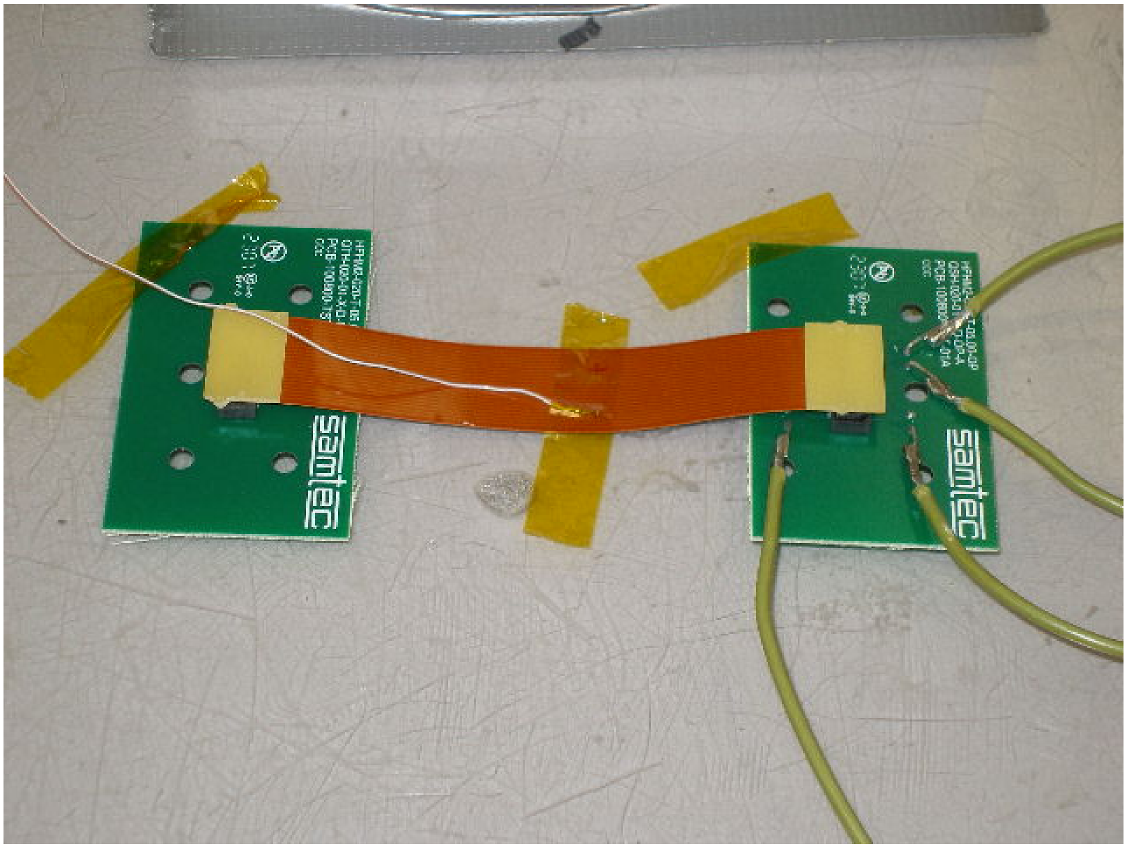
- **CCC for a 30°C Temperature Rise------------------------.22A per contact with 12 contacts powered in a Linear Series**



DATA SUMMARIES

TEMPERATURE RISE (Current Carrying Capacity, CCC):

1) High quality thermocouples whose temperature slopes track one another were used for temperature monitoring.
2) The thermocouples were placed at a location to sense the maximum temperature generated during testing.
3) Temperature readings recorded are those for which three successive readings, 15 minutes apart, differ less than 1° C (computer controlled data acquisition).
4) Adjacent contacts were powered:
    a. Linear configuration with six adjacent contacts powered
    b. Linear configuration with twelve adjacent contacts powered



EQUIPMENT AND CALIBRATION SCHEDULES

Equipment #: PS-01
Description: System Power Supply
Manufacturer: Hewlett Packard
Model: HP 6033A
Serial #: (HP) 3329A-07330
Accuracy: See Manual
… Last Cal: 06/22/07, Next Cal: 06/22/08

Equipment #: MO-02
Description: Multimeter /Data Acquisition System
Manufacturer: Keithley
Model: 2700
Serial #: 0780546
Accuracy: See Manual
… Last Cal: 06/22/07, Next Cal: 06/22/08

Equipment #: TC111307-(001 - 017)
Description: CCC Chamber Thermocouples
Manufacturer: Samtec
Model:
Serial #: TC111307-(001 - 017)
Accuracy: +/- 1 Deg.
… Last Cal: 11/30/2007, Next Cal: 11/30/2008
… Last Cal: , Next Cal:

Equipment #: Null
Description:
Manufacturer:
Model:
Serial #:
Accuracy:
… Last Cal: , Next Cal: