

419-9, (01/14) <b>TEST REQUEST</b>	CONTACT – PRIMARY LABORATORY <b>J. Mellott</b>	ASSIGNED – PRIMARY LABORATORY <b>C. Zuvich</b>	TEST NUMBER – PRIMARY LABORATORY <b>EA20150426T</b>
	CONTACT – SECONDARY LABORATORY	ASSIGNED – SECONDARY LABORATORY	TEST NUMBER – SECONDARY LABORATORY

REQUESTER(S) R. Sinclair	BLDG.-BOX Y32	PHONE 828-338-1109	FAX	SCHEDULING PRIORITY (INCLUDE SPECIFIC INSTRUCTIONS IN REMARKS) <input checked="" type="checkbox"/> SCHEDULE UNDER NORMAL PRIORITY <input type="checkbox"/> PRIORITIZE OVER ALL TEST PROGRAMS FROM THIS REQUESTER <input type="checkbox"/> PRIORITIZE OVER ALL TEST PROGRAMS FROM THIS DEPARTMENT <input type="checkbox"/> PRIORITIZE OVER ALL TEST PROGRAMS SUBMITTED UNDER THE FOLLOWING MANAGER/DIRECTOR:
COST CENTER NUMBER 16615	BUSINESS UNIT HPG Business Office	QUALITY REPRESENTATIVE W. Butcher		

PROGRAM CENTRAL DESCRIPTION	PLEASE SELECT DATA CLASSIFICATION OF TEST PACKAGE. <b>DEFAULT IS CLASS 2</b> DATA CLASSIFICATION: <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> ITAR
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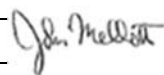
PROJECT NUMBER PRJ-	OR	PRODUCT CODE D676	DATE SUBMITTED 7/20/2015	DATE REQUIRED 8/20/2015
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PURPOSE OF TEST OR SERVICE AND REFERENCED TEST SPECIFICATION:  
Temperature and humidity cycling of MDR relays (samples provided)

**RECEIVED**  
**July 24, 2015**

TEST LETTER	TEST OR SERVICE TO BE PERFORMED	SPECIFICATION OR REFERENCE DOCUMENT #
A	MIL-STD-202-106, with exceptions: Subject specimens to 12 8-hour cycles (total 96 hours) between 5°C and 85°C at 80 to 100% RH. No cold shock. No vibration.  The temperature profile for each cycle shall consist of the following: <ul style="list-style-type: none"> <li>Ramp from 5°C to 85°C in 2.5 hours</li> <li>Dwell at 85°C for 3 hours</li> <li>Ramp from 85°C to 5°C in 2.5 hours</li> </ul> The humidity shall be maintained at 80 to 100 %RH throughout the cycle.	MIL-STD-202-106, with exceptions

TEST SET	SPECIMEN DESCRIPTION – BREAKDOWN COMPONENT PART NUMBERS AS APPLICABLE TO PURPOSE OF TEST			TEST SEQUENCE
ID #	QTY	PART NUMBER & REV. OR OTHER UNIQUE ID	NAME	LIST ATTRIBUTES APPLICABLE TO PURPOSE OF TEST (PLATING, BASE METAL, CONDUCTOR TYPE/SIZE, TOOLING, CONTACT COATING/LUBE, ETC.)
1	1	1393139-2	MDR-131-1	<b>Revision A, APPROVED BY</b>
2	1	1-1393139-1	MDR-137-8	

  
**John Mellott**  
**Test Engineer**    **August 4, 2015**

REQUESTED DATA PRESENTATION	<input type="checkbox"/> MEASURED DATA	<input type="checkbox"/> DELTA DATA	<input type="checkbox"/> MIN, MAX, AVERAGE, STANDARD DEVIATION	<input type="checkbox"/> OTHER:
	<input type="checkbox"/> FORCE PROFILE PLOTS	<input type="checkbox"/> FORCE VS. DEFLECTION PLOTS		
	<input type="checkbox"/> PROBABILITY PLOTS	<input type="checkbox"/> TEMPERATURE RISE VS. CURRENT PLOTS	<input type="checkbox"/> TOLERANCE LIMITS	

REQUESTED DOCUMENTATION	<input checked="" type="checkbox"/> DATA PACKAGE	<input type="checkbox"/> SUMMARY REPORT	<input type="checkbox"/> OTHER:
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REMARKS:  
Test data to include temperature and humidity profile over 96 hours

Harrisburg Electrical Components Test Laboratory

**TEST DATA**

Test Set: # 1 & 2

Section:

Step:1 Run:1

**Product Description:** MDR-131-1 & MDR-137-8 Relays  
**Part Number:** 1393139-2, 1-1393139-1  
**Control Document:** Test Request  
**Test Group:**

**Temperature:** °C  
**Humidity:** %RH  
**BP:** inHg

**Tester:** C. Zuvich  
**Start Date:** 7/24/15  
**Compl. Date:** 7/28/15

**Results:**

The specimens were returned to the test requester for evaluation following the test.

**Procedure:**

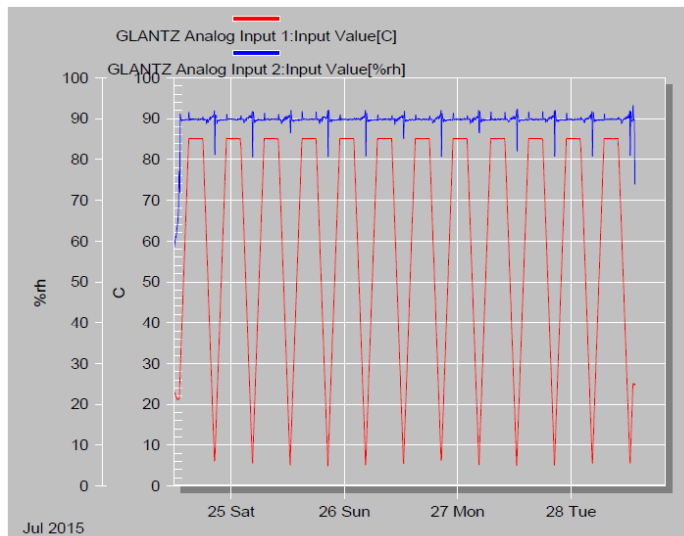
Specimens were placed in the chamber and subjected to conditions as specified by the test request:

Specimens were subjected to testing per MIL-STD-202-106, 18 April 2015, with exceptions:  
 12 8-hour cycles (total 96 hours) between 5°C and 85°C at 80 to 100% RH. No cold shock. No vibration.

The temperature profile for each 8-hour cycle consisted of the following:

- Ramp from 5°C to 85°C in 2.5 hours
- Dwell at 85°C for 3 hours
- Ramp from 85°C to 5°C in 2.5 hours

The humidity was maintained at 80 to 100 %RH throughout the cycle. See Figure 1 for actual test conditions.



**Figure 1 – Temperature and Humidity Test Conditions**  
**Note:** Humidity set point was 90% throughout entire test.

**Equipment List:**

All equipment containing a calibration number is calibrated and traceable through TE Connectivity (TE) to the National Institute of Standards and Technology (NIST).

**Equipment Name**  
 Humidity-Temperature Cycling Chamber

**Calibration Number**  
 E9100-1860