C. ELECTRICAL REQUIREMENTS:

(1) COIL VOLTAGE: MUST LATCH (EITHER DIRECTION) IN ACCORDANCE WITH TABLE 1.

(2) COIL RESISTANCE: IN ACCORDANCE WITH TABLE 1.

(3) CONTACT RESISTANCE: SHALL BE 1.0 OHM MAXIMUM WHEN MEASURED WITH 100 MILLIAMPERES FROM A 12-VOLT OPEN CIRCUIT VOLTAGE (CONTACTS SHALL NOT SWITCH THE MEASURING LOAD). 100 PERCENT OF UNITS PROCURED SHALL BE INSPECTED FOR THIS CHARACTERISTIC.

(4) DIELECTRIC STRENGTH:
   (a) AT SEA LEVEL: 1000 VOLTS RMS MINIMUM FOR 5 SECONDS MINIMUM WITHOUT DISCHARGE, BREAKING OR DISCHARGE BETWEEN ANY TERMINAL AND THE FRAME OF THE RELAY. 100 PERCENT OF UNITS PROCURED SHALL BE INSPECTED FOR THIS CHARACTERISTIC.
   (b) AT 1000 MEGOHMS AT 125 DEGREES CENTIGRADE, CONTACTS AND FRAME.

(5) INSULATION RESISTANCE: 500 VOLTS RMS MINIMUM AT 500 VOLTS RMS BETWEEN MUTUALLY INSULATED TERMINALS. OPEN SWITCHING CONTACTS SHALL BE INSULATED FROM THE RELAY CIRCUIT AND OTHER CIRCUITS. 500 VOLTS RMS MINIMUM BETWEEN COILS AT PLUS 25 DEGREES CENTIGRADE (1000 MEGOHMS AT 725 DEGREES CENTIGRADE), CONTACTS AND FRAME.

(6) OPERATE TIME, BOTH DIRECTIONS: EACH 10 MILLISECONDS MAXIMUM UNDER ALL CONDITIONS SPECIFIED IN TABLE 1.

(7) TRANSFER TIME: 1.0 MILLISECOND MAXIMUM.

(8) CONTACT BOUNCE: 2.0 MILLISECOND MAXIMUM.

(9) CONTACT CHATTER: 10.0 MICROSECONDS MAXIMUM DURING VIBRATION AND SHOCK AS SPECIFIED IN ND 1002046.

(10) VOLTAGE ON 1 OR 2 CLOSES SWITCH AS SHOWN.

SCHEMATIC AND PIN LAYOUT

FOR REFERENCE ONLY
NOTES CONTINUED

3. DESIGN:

A. ELECTRICAL RATINGS:

1. COIL VOLTAGE (SUGGESTED SOURCE): IN ACCORDANCE WITH TABLE I.
2. COIL CURRENT, MAX CONTINUOUS: IN ACCORDANCE WITH TABLE I.
3. MAXIMUM COIL POWER: 0.60 WATTS MAXIMUM PER COIL AT PLUS 25 DEGREES CENTIGRADE DERATED TO 0.25 WATTS PER COIL AT PLUS 125 DEGREES CENTIGRADE.
4. SEE TABLE II

B. CONSTRUCTION:

1. CONTACT FORM AND SWITCHING ACTION: 2 FORM C CONTACTS (BREAK BEFORE MAKE); DOUBLE PULS, DOUBLE THROWN, POLARIZED WITH MAGNETIC LATCHING ACTION.
2. CONTACT MATERIAL: APPLICABLE FOR RATED LOAD.

3. COIL MATERIAL: COIL MATERIAL SHALL BE GOLD PLATED IRON-NICKEL ALLOY (DUMET).

4. CASE: ALL-WELDED CONNECTIONS WITH A HERMETICALLY SEALED CASE. CASE MATERIAL SHALL BE CUPRO-NICKEL.

C. QUALIFICATION REQUIREMENTS:

1. LIFE: LIFE OF THIS UNIT SHALL BE 100,000 CYCLES MINIMUM WHEN TESTED PER NO 1002046. FOR THE LIFE TESTS, THE CLASSIFICATION OF THIS RELAY MAY BE GENERAL PURPOSE OR LOW-LEVEL WITH THE STIPULATION AS STATED UNDER CONTACT RATING.

D. ENVIRONMENTAL REQUIREMENTS:

1. HUMIDITY (MOISTURE RESISTANCE): UNITS SHALL BE CAPABLE OF WITHSTANDING RELATIVE HUMIDITY UP TO 98 PERCENT.
2. OPERATING TEMPERATURE RANGE: UNITS SHALL BE CAPABLE OF OPERATING WITHIN THE ELECTRICAL REQUIREMENTS OF THIS SPECIFICATION WHEN EXPOSED TO AMBIENT TEMPERATURES FROM MINUS 65 DEGREES CENTIGRADE TO PLUS 125 DEGREES CENTIGRADE.
3. THERMAL SHOCK: UNITS SHALL BE CAPABLE OF WITHSTANDING THERMAL SHOCK FROM MINUS 65 DEGREES CENTIGRADE TO PLUS 125 DEGREES CENTIGRADE.
4. THE SALT SPRAY TEST PER MIL-R-5757 IS NOT APPLICABLE.

E. SPECIAL CONDITIONING:

A. THE MANUFACTURER SHALL SUBJECT EACH RELAY TO THE MISS TEST AS FOLLOWS:

1. LOAD SHALL BE 20 MICROAMPERES MAXIMUM (RESISTIVE) AT 20 MILLIWATTS MAXIMUM OPEN CIRCUIT VOLTAGE.
2. TEST SPEED SHALL BE 5 CYCLES, OR LESS, PER SECOND.

MATERIALS

UNLESS OTHERWISE SPECIFIED EXERCISES ARE IN INCHES TOLERANCES ON FRACTIONS DECIMAL ANGLES 0.001

DO NOT SCALE THIS DRAWING MATERIALS

SEE NOTES

INSTRUMENTATION LAB HOUSTON, TEXAS
MANNED SPACECRAFT CENTER
RELAY, ARMATURE, MAGNETIC LATCHING
SPECIFICATION CONTROL DRAWING

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