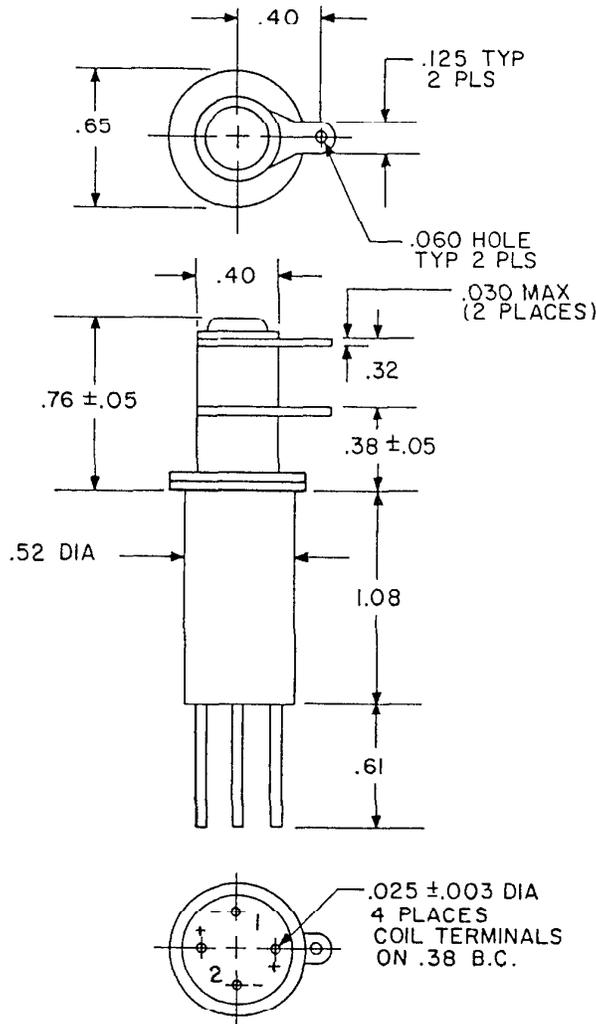


MILITARY SPECIFICATION SHEET

RELAYS, VACUUM, SPST, LATCHING, 15 AMPERES DC OR
60 HZ RMS, 5 KILOVOLTS PEAK

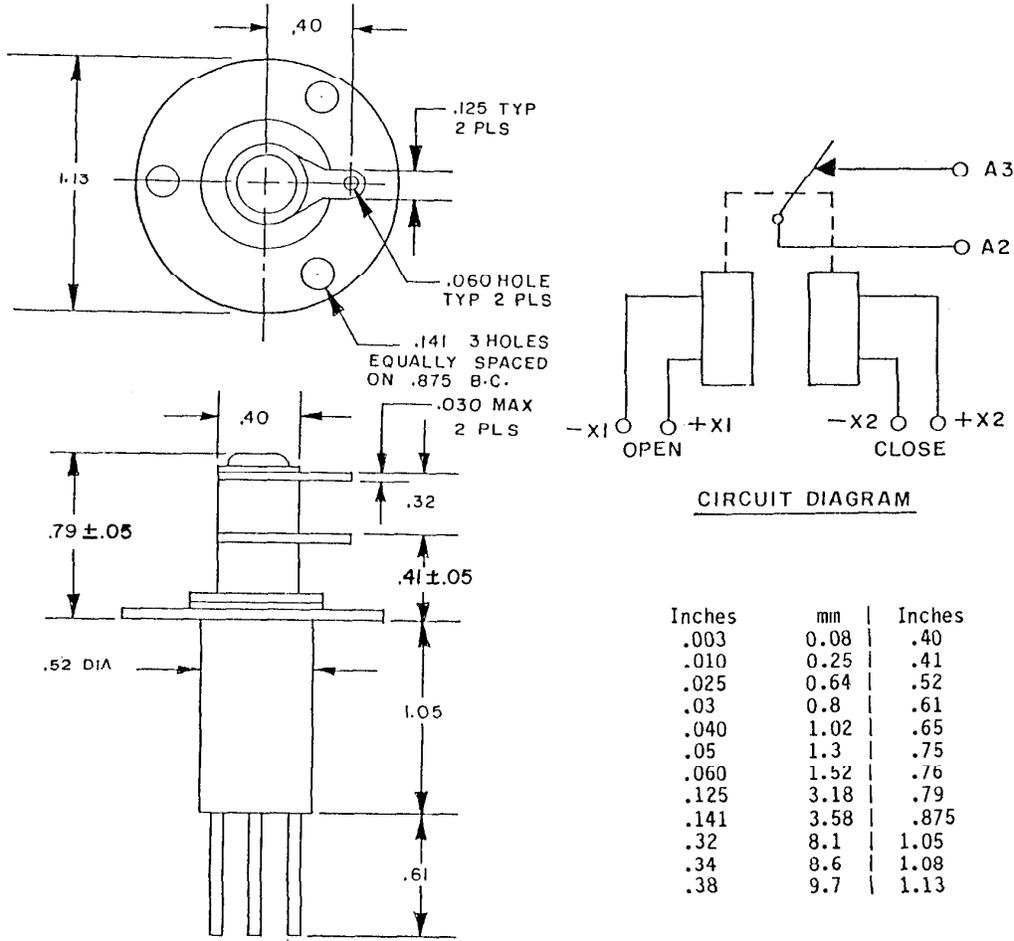
This specification is approved for use within the Department of the Air Force, and is available for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the relays described herein shall consist of this specification and the latest issue of MIL-R-83725.



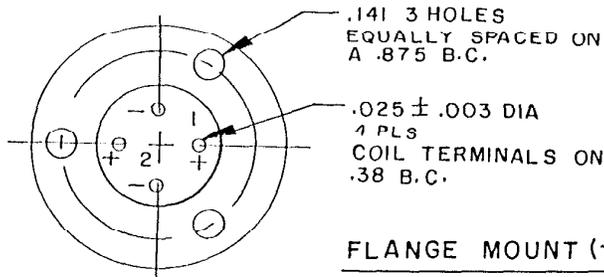
SLEEVE MOUNT (-001 AND -003)

FIGURE 1. Relay dimensions and configuration.



CIRCUIT DIAGRAM

| Inches | mm | Inches | mm |
|--------|------|--------|------|
| .003 | 0.08 | .40 | 10.2 |
| .010 | 0.25 | .41 | 10.4 |
| .025 | 0.64 | .52 | 13.2 |
| .03 | 0.8 | .61 | 15.5 |
| .040 | 1.02 | .65 | 16.5 |
| .05 | 1.3 | .75 | 19.1 |
| .060 | 1.52 | .76 | 19.3 |
| .125 | 3.18 | .79 | 20.1 |
| .141 | 3.58 | .875 | 22.2 |
| .32 | 8.1 | 1.05 | 26.7 |
| .34 | 8.6 | 1.08 | 27.4 |
| .38 | 9.7 | 1.13 | 28.7 |



FLANGE MOUNT (-002 AND -004)

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ±.03 (0.76 mm) for two place decimals and ±.010 (0.25 mm) for three place decimals.
4. Glazing of ceramic insulator is required.

FIGURE 1. Relay dimensions and configuration - Continued.

REQUIREMENTS:

CONTACT DATA:

Configuration: SPST, NC, ground isolated.

Arrangement: Latching.

Load ratings:

Resistive: (Carry only).

15 amperes dc or 60 Hz rms.

12 amperes rms, 2.5 MHz.

8 amperes rms, 16 MHz.

6 amperes rms, 32 MHz.

2.75 amperes rms, 50 Hz.

2.0 amperes rms, 75 Hz.

Rated operating voltage:

5 kilovolts peak, 60 Hz or dc.

4.5 kilovolts peak, 2.5 MHz.

3.5 kilovolts peak, 16 MHz.

2.8 kilovolts peak, 32 MHz.

2.0 kilovolts peak, 50 Hz.

1.0 kilovolt peak, 75 Hz.

Contact resistance:

Rated life:

Before: .020 ohm, maximum.

During: .100 ohm, maximum.

After: .100 ohm, maximum.

Capacitance:

1.6 picofarads, maximum across open contacts.

1.6 picofarads, maximum between open contacts and ground.

COIL DATA: 1/

Duty rating: 10% maximum duty cycle, 1 second maximum on time.

Operate time: -001 and -002, 4 milliseconds maximum, including bounce.

-003 and -004, 1 millisecond maximum, including bounce.

Pulse duration: -001 and -004, 4 milliseconds minimum.

-003 and -004, 1 millisecond minimum.

Voltage nominal (V dc): 26.5.

Resistance (ohms +10% at 20°C): 80.

Maximum voltage (V dc): 32 V dc.

Maximum transfer voltage (V dc at 25°C): 16 V dc.

Maximum transfer voltage (V dc, -55°C to +125°C): 23 V dc.

Maximum pulse duration: 1 s.

ELECTRICAL DATA:

Insulation resistance: 1,000 megohms, minimum, except the resistance between coil and case at high temperature shall be 500 megohms or greater.

Dielectric withstanding voltage:

At atmospheric pressure, 60 Hz or dc.

Between all mated contacts in the open position: 6 kV peak.

Between high voltage terminals and case: 6 kV peak.

Between coil and case: 500 V rms, 60 Hz.

1/ CAUTION: The use of any coil voltage other than rated coil voltage may compromise the operation of the relay.

MIL-R-83725/24(USAF)

ENVIRONMENTAL DATA:

Temperature range: -55°C to +125°C.
 Vibration: MIL-STD-202, method 204, test condition C (10-55 Hz, .06 inch DA/55-2000 Hz, 10 g).
 Shock: MIL-STD-202, method 213, test condition A, 50 g, 11 milliseconds, half sine.

PHYSICAL:

Terminal strength: 5 pounds pull.
 Dimensions and configuration: See figure 1.
 Termination: Solder terminal.
 Weight: 1 ounce, maximum.

LIFE TEST REQUIREMENTS:

Mechanical cycling: 1,000,000 cycles. 2 sample units (cycling rate, 36,000 per hour maximum; contact current shall not exceed 10 milliamperes).

QUALITY ASSURANCE:

Dielectric withstanding voltage: Tests to be conducted at atmospheric pressure rating only.
 Duration of application: 5-10 seconds at a 10 percent increase in the dielectric withstanding voltage.

PART NUMBER: M83725/24-001 and -003 sleeve mount or M83725/24-002 and -004 flange mount (see figure 1).

QUALIFICATION INSPECTION:

Qualification inspection: See table II.

TABLE II. Qualification inspection.

| Single submission | Group submission | | |
|------------------------------|------------------|-------------|---|
| | Part | Sample size | Inspections |
| 10 units plus 1 open unit | M83725/24-003 | 5 units | Full qualification |
| | M83725/24-004 | 5 units | |
| | M83725/24-001 | 2 units | Group 1 of qualification inspection table, shock, vibration, and plus 1 open unit of any dash number. |
| | M83725/24-002 | 2 units | |

LOGISTICS SUPPORT: The Government shall support M83725/24-001 with M83725/24-003 and M83725/24-002 with M83725/24-004.

Preparing activity:
 Air Force - 85

Agent:
 DLA - ES

(Project 5945-F645-04)