[INCH-POUND]

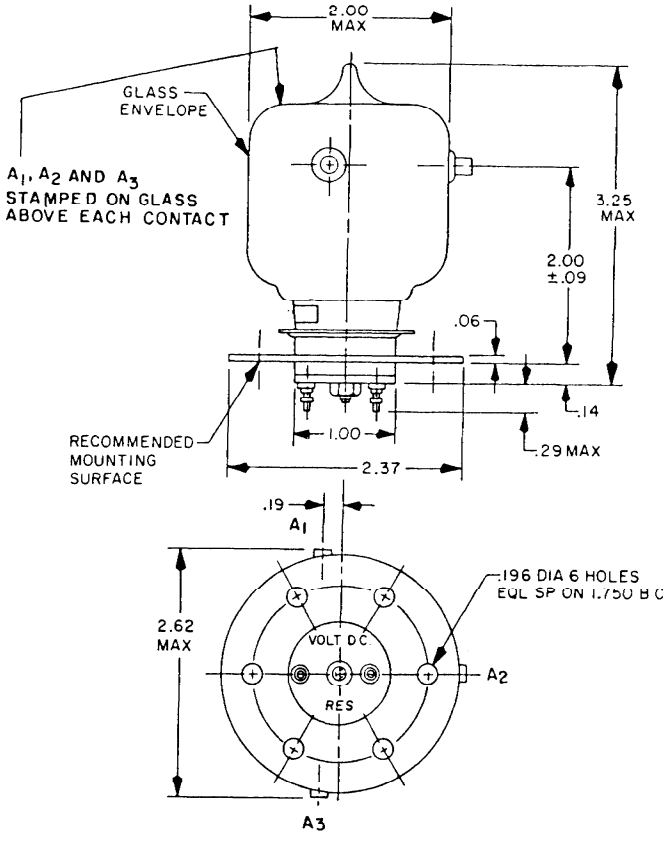
MIL-R-83725/2D
17 March 1989
SUPERSEDING
MIL-R-83725/2C
25 January 1980

MILITARY SPECIFICATION SHEET

RELAYS, VACUUM, SPDT, 25 AMPERES RMS, 25 KILOVOLTS (PEAK)

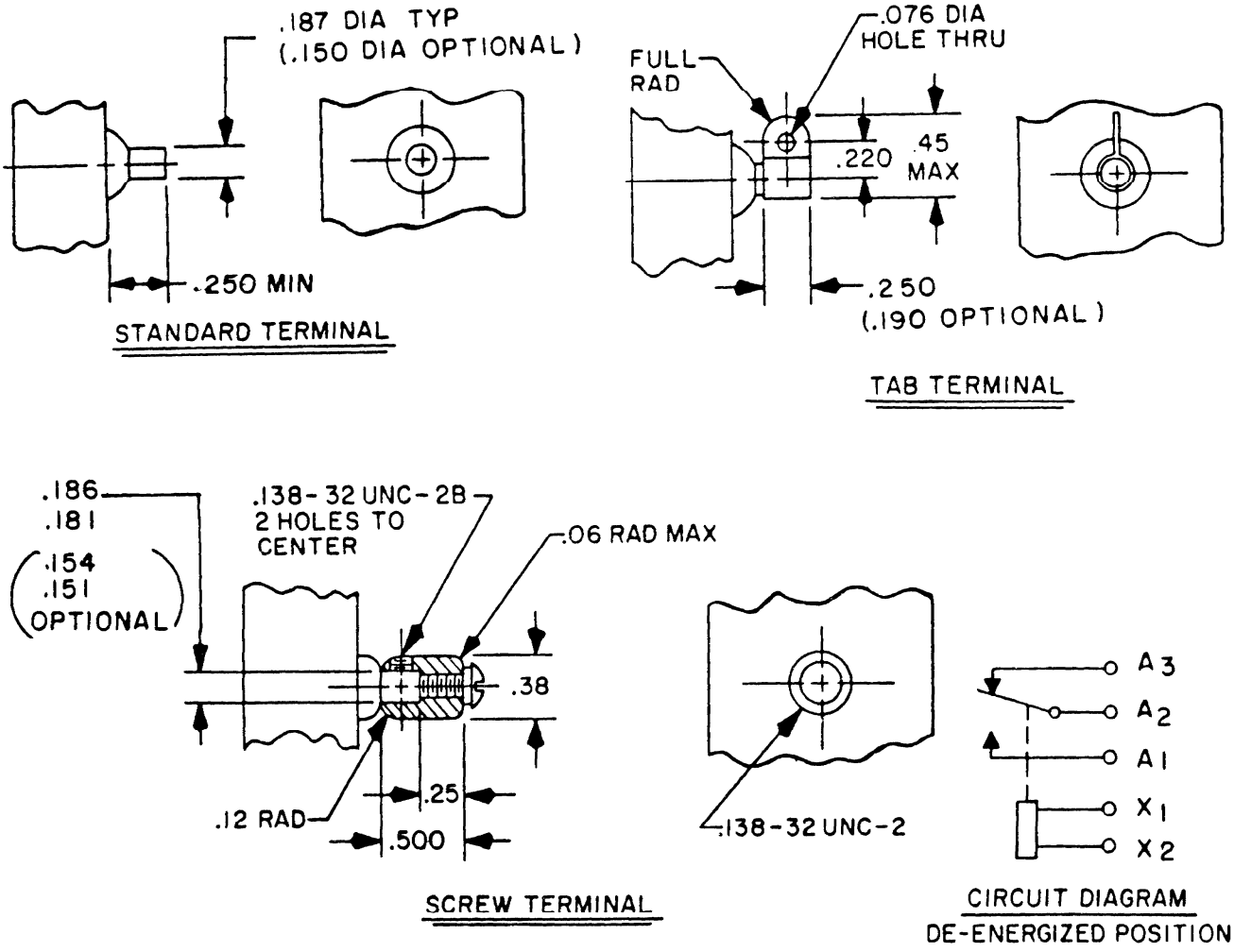
This specification sheet is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-R-83725.



(D) FIGURE 1. Dimensions and configuration.

(D) denotes changes



Inches	mm	Inches	mm	Inches	mm	Inches	mm
.06	1.5	.151	3.84	.196	4.98	.500	12.70
.076	1.93	.154	3.91	.220	5.59	1.00	25.4
.09	2.3	.181	4.60	.250	6.35	1.750	44.45
.12	3.0	.186	4.72	.29	7.4	2.00	50.8
.138	3.51	.187	4.75	.38	9.7	2.37	60.2
.14	3.6	.19	4.8	.45	11.4	2.62	66.5
						3.25	82.6

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ±.010 (0.25 mm) for three place decimals and ±.03 (0.8 mm) for two place decimals.
4. Part number shall be permanently marked on the relay envelope.
(D) 5. Marking shall be in accordance with MIL-STD-1285.

(D) FIGURE 1. Dimensions and configuration - Continued.

REQUIREMENTS:

CONTACT DATA:

Configuration: SPDT.

Arrangement: 1 form C.

Load ratings: (carry)

Resistive:

25 amperes rms, dc or 60 Hz.
13 amperes rms, 2.5 MHz.
8 amperes rms, 16 MHz.

Voltage ratings:

25 kilovolts peak, dc or 60 Hz.
20 kilovolts peak, 2.5 MHz.
15 kilovolts peak, 16 MHz.

Contact resistance:

Rated life:

Before: .015 ohm, maximum.
During: .100 ohm, maximum.
After: .100 ohm, maximum.

Contact bounce: Not applicable.

Capacitance:

1 picofarad, maximum across open contacts.
2.5 picofarads, maximum between open contacts and ground.

COIL DATA:

Duty rating: Continuous.

Operate time: 25 milliseconds, maximum. 1/

Release time: 10 milliseconds, maximum. 1/

Nominal voltage: See table I.

Maximum voltage: See table I.

Pickup voltage maximum: See table I.

Dropout voltage maximum: See table I.

Coil resistance at 25°C: See table I.

1/ Over the temperature range.

ELECTRICAL DATA:

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

Dielectric withstanding voltage:

At atmospheric pressure:

Between all mated contacts in the open position: 30 kilovolts peak, 60 Hz.
Between high voltage terminals and housing: 30 kilovolts peak, 60 Hz.
Between coil and housing: 500 V rms, 60 Hz.

At reduced barometric pressure: In accordance with MIL-STD-202, method 105, test condition C. Relays shall be mounted by normal mounting means. Points of application: Same as "at atmospheric pressure" except test voltage applied shall be 350 volts rms with all terminals grounded. Following the test, relays shall be examined for evidence of arcing, flashover, insulation breakdown, and damage.

ENVIRONMENTAL DATA:

Temperature range: -55°C to +125°C.

Vibration: MIL-STD-202, method 204, test condition A.

Shock: MIL-STD-202, method 213, test condition J.

PHYSICAL DATA:

Terminal strength: 5 pounds pull.

Dimensions and configuration: See figure 1.

Termination: See figure 1 and table I.

Weight: 7 ounces, maximum.

LIFE TEST REQUIREMENTS:

Mechanical cycling: 100,000 operations. Two sample units (maximum cycling rate, 18,000 per hour; 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 or 60 seconds at the specified dielectric withstanding voltage.

PART NUMBER: M83725/2- (dash number from table I).

TABLE I. Dash number and characteristics.

Dash number	Termination	Coil voltage nominal V dc	Coil voltage maximum V dc	Pickup voltage maximum 1/ V dc	Dropout voltage minimum 1/ V dc	Coil resistance at 25°C ohms ±10%
001	Standard	26.5	32	23	1	120
002	Tab	26.5	32	23	1	120
003	Screw	26.5	32	23	1	120
004	Standard	115	127	100	2	2280
005	Tab	115	127	100	2	2280
006	Screw	115	127	100	2	2280

1/ Over the temperature range.

CONCLUDING MATERIAL

Custodians:
Army - ER
Navy - EC
Air Force - 85

Review activities:
Navy - SH
Air Force - 17, 99
DLA - ES

User activities:
Army - AT, AV, ME

Preparing activity:
Air Force - 85

Agent:
DLA - ES

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