

INCH-POUND

MIL-R-83726/22D(USAF)
31 August 1994
SUPERSEDING
MIL-R-83726/22C(USAF)
15 JUNE 1992

MILITARY SPECIFICATION SHEET

RELAYS, SOLID STATE, REPEAT CYCLE TIMER, TYPE IV,
CLASS C, SPST, 250 MILLIAMPERES

(D)

Inactive for new design after 26 October 1993.
No superseding standard.

This specification is approved for use by 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 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-83726.

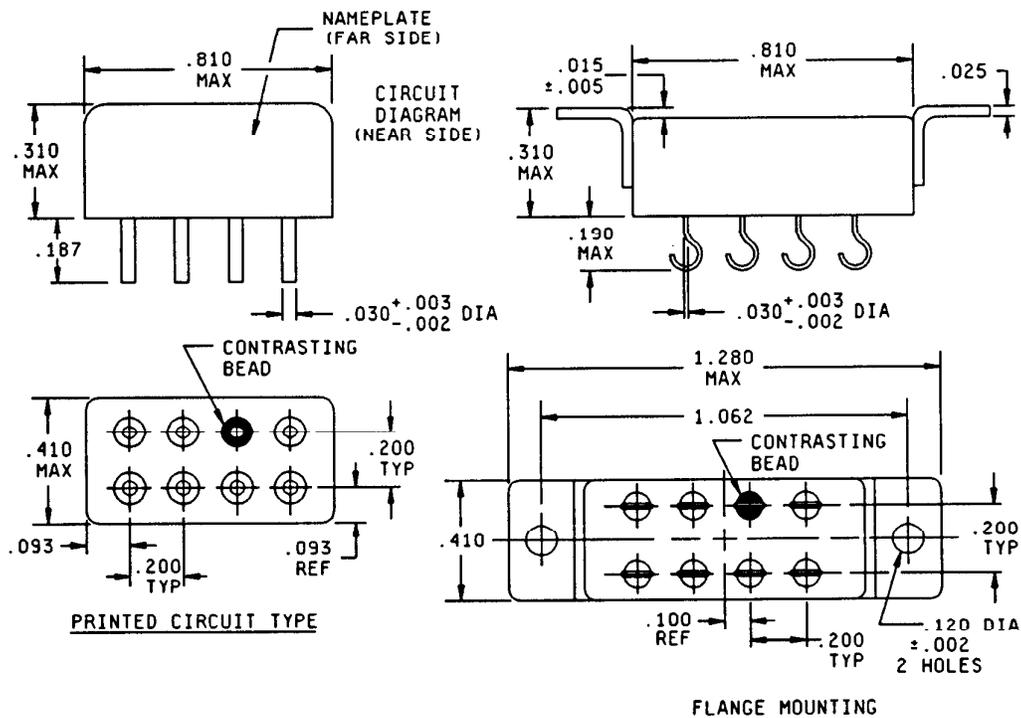
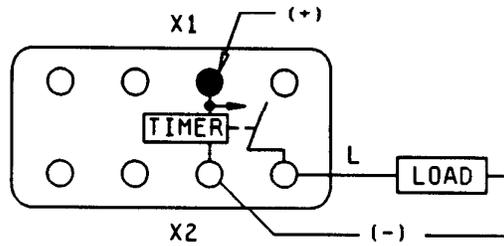
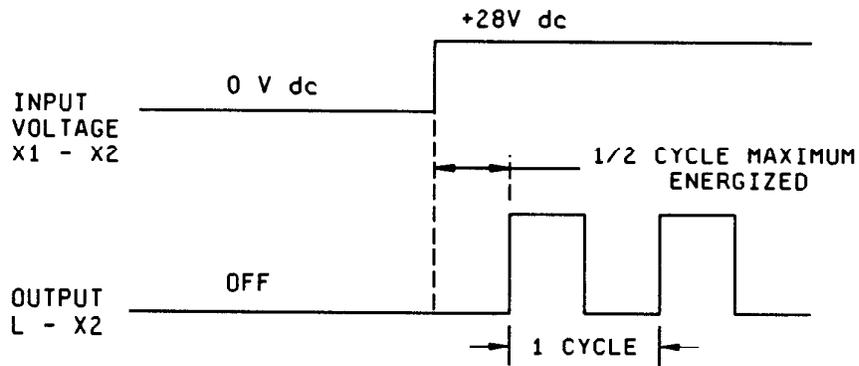


FIGURE 1. Dimensions and configurations.

(D) denotes changes



CIRCUIT DIAGRAM
(SEE NOTE 4)



TIMING DIAGRAM

Inches	mm	Inches	mm
.002	0.05	.187	4.75
.003	0.08	.190	4.83
.010	0.25	.200	5.08
.025	0.64	.310	7.87
.030	0.76	.410	10.41
.093	2.36	.810	20.57
.100	2.54	1.062	26.97
.120	3.05	1.280	32.51

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.010 (0.25 mm) for three place decimals and ± 0.03 (0.76 mm) for two place decimals.
4. Spare terminals are connected internally. Do not use for external tie points or for terminals.

FIGURE 1. Dimensions and configurations - Continued.

MIL-R-83726/22D(USAF)

REQUIREMENTS:

OPERATING DATA:

Timing action: Repeat cycle.

Cycle rate: 10 maximum per second; 1.0 minimum per 60 seconds; on time 50 percent.

Timing accuracy: 1/ 10 percent of the total cycle time.

Recycle time: 2/ 10 milliseconds.

INPUT DATA:

Input voltage: 28 V dc nominal; range 18 to 32 V dc.

Duty rating: Continuous.

Current drain: 5 milliamperes maximum plus load at 25°C.

Polarity protection: The timer shall be inoperative during, and undamaged by, reversal of the polarity of the operating voltage.

OUTPUT DATA:

Configuration: SPST; switch closure to +28 V dc.

Rating: Equivalent of two MS25237-387 lamps in parallel.

Suppression: Inductive suppression provided for output protection.

Voltage drop: 2 V dc maximum.

Endurance: 1,000,000 cycles minimum for test.

Qualification: 2,000 hours or 1,000,000 cycles, whichever is less.

1/ The accuracy requirement applies for any combination of operating temperature and voltage.

2/ Recycle time is defined as the maximum time that power must be removed from the input terminals to assure that the next timing cycle will be completed within the specified timing tolerance. (Units can be recycled during timing or after time-out.)

MIL-R-83726/22D(USAF)

ELECTRICAL DATA:

Transients: MIL-STD-704, figure 9, limit 1, duty cycle 2 percent for category B equipment.

Spike:

Self generated: None.

Susceptibility: +80 V maximum; -600 V maximum.

Radio noise: MIL-STD-461, class 1D.

Motor load: Not applicable.

Insulation resistance: 1,000 megohms at 500 V dc at sea level; 100 V dc at 80,000 feet between each pin and case.

Dielectric strength: 1,000 V rms at 60 Hz at sea level; 350 V rms at 80,000 feet between case and pins connected together.

ENVIRONMENTAL DATA:

Ambient temperature (operating or nonoperating): -55°C to +125°C.

- Ⓓ Vibration (sinusoidal): .06 inch DA, 10 Hz to 100 Hz.
30 g's, 100 Hz to 3,000 Hz.

Vibration (random): MIL-STD-202, method 214, condition I, letter J, duration of 30 minutes.

Shock: 1,100 g's for 0.5 millisecond.

Acceleration: 100 g's, any axis.

Seal: MIL-STD-883, method 1014, conditions B and C, except for gross leak, step 2.

Moisture resistance: MIL-STD-202, method 106.

- Ⓓ Maximum altitude rating: 80,000 feet.

PHYSICAL DATA:

Dimensions and configuration: See figure 1.

Terminations: See figure 1.

Terminal strength: 3 pounds pull.

Weight: 0.5 ounce.

Marking: In accordance with MIL-R-83726. In addition, relays shall be marked with the ESDS identifier as specified in MIL-STD-1285.

MIL-R-83726/220(USAF)

ESDS protection program: An ESDS protection program shall be implemented within 6 months of the date of revision C to this document. The manufacturer shall establish and maintain an ESD control program in accordance with MIL-STD-1686 for mission critical equipment. Evidence of such compliance shall be verified by the qualifying activity of this specification as a prerequisite for qualification and continued qualification. This program shall be documented by an ESD control plan which must be under document control. As a minimum, this plan must address the identification of ESDS sub-components and end items, facilities, training, design protection, handling procedures, marking, cleaning, preservation, packaging, and quality assurance. A model ESD control program is available from the qualifying activity and may be used as a guideline. Further guidance for ESD control is available from EOS/ESD Association and the Electronics Industry Association (EIA). This requirement is applicable to all manufacturers who handle ESDS component parts and materials in the relay manufacturing or testing process. This requirement is not limited to manufacturers qualifying ESDS end items.

ESDS verification: As a part of qualification or qualification after redesign, ESD testing shall be done in accordance with method 3015 of MIL-STD-883 modified to test at 16,000 volts. Testing at lower voltage levels is not required. This testing shall be accomplished as part of the group III for qualification inspection and as part of the group C inspection.

ESDS preservation and packaging: Relays shall be preserved and packaged in such a manner as to ensure that the integrity of ESD sensitive relays is not diminished. ESD sensitive relays shall be preserved and packaged in accordance with the requirements of MIL STD 1686.

CONCLUDING MATERIAL

Custodian:
Air Force - 85

Review activities:
Air Force - 99
DLA - ES

Preparing activity:
Air Force - 85

Agent:
DLA - ES

(Project 5945-F762-01)