

INCH-POUND
MIL-R-83726/22F
30 October 2008
SUPERSEDING
MIL-R-83726/22E
15 September 2005

DETAIL SPECIFICATION SHEET

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

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

This specification 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 and [MIL-PRF-83726](#).

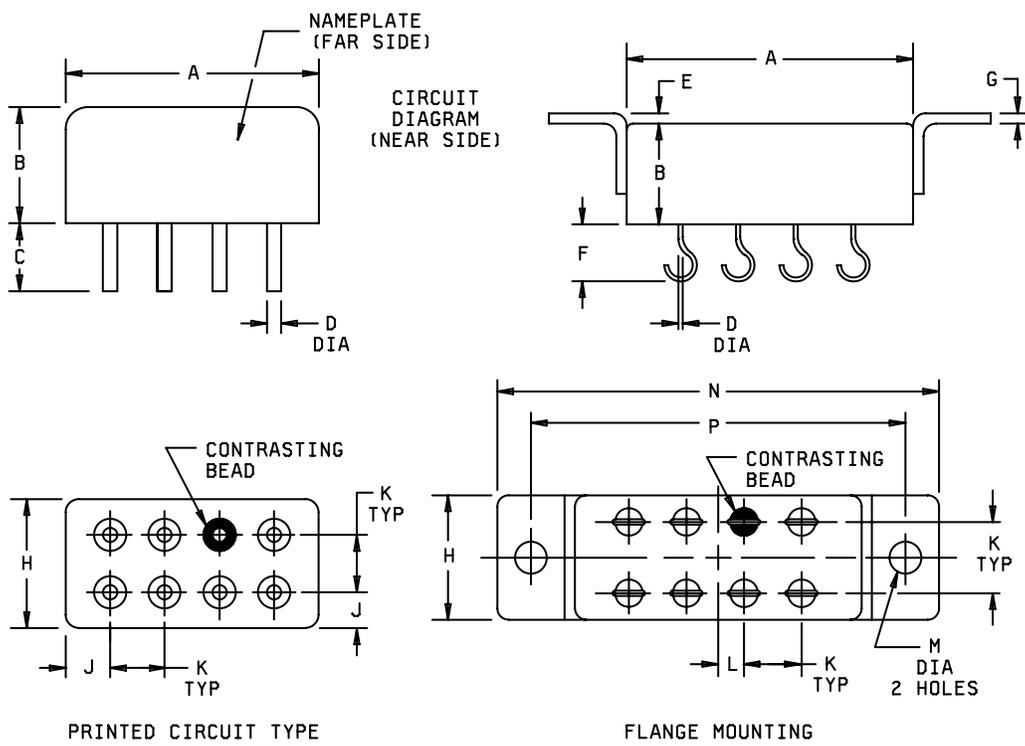
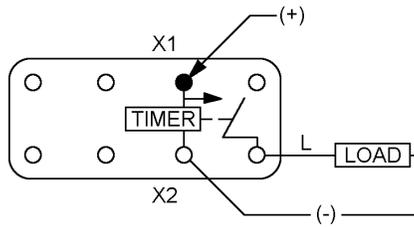
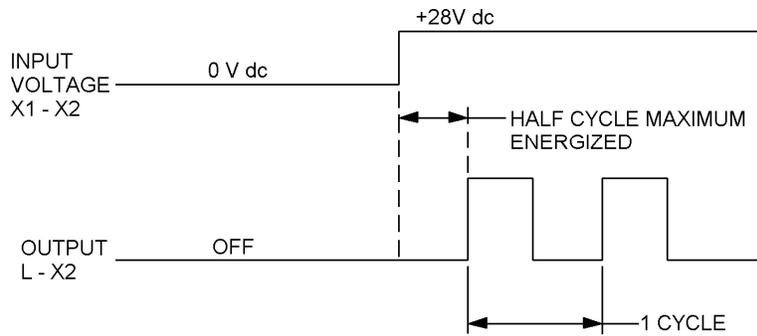


FIGURE 1. Dimensions and configurations.

MIL-R-83726/22F



CIRCUIT DIAGRAM
(SEE NOTE 4)



TIMING DIAGRAM

Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.810	---	20.57
B	---	.310	---	7.87
C	.182	.192	4.62	4.88
D	.028 DIA	.033 DIA	0.71 DIA	0.84 DIA
E	.010	.020	0.25	0.51
F	---	.190	---	4.83
G	.020	.030	0.51	0.76
H	---	.410	---	10.41
J	.088	.098	2.24	2.49
K	.195 TYP	.205 TYP	4.95 TYP	5.21 TYP
L	.095 REF	.105 REF	2.41 REF	2.67 REF
M	.118 DIA	.122 DIA	3.00 DIA	3.10 DIA
N	---	1.280	---	32.51
P	1.057	1.067	26.85	27.10

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 (0.8 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.

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 unclamped 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-83726/22F

Electrical data:

Transients in accordance with [MIL-STD-704](#) for 28 volts dc system (figure 11).

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, test condition 1, letter J, duration of 30 minutes.

Shock: 1,100 g's for 09.5 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: See [MIL-PRF-83726](#). In addition, relays shall be marked with the ESDS identifier as specified in [MIL-STD-1285](#).

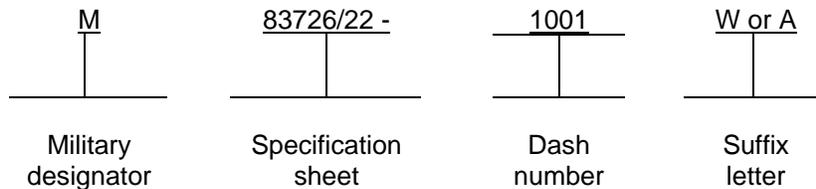
MIL-R-83726/22F

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 the 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 3013 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 as 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.

Part or Identifying Number (PIN): Consists of the prefix M83726/22-, a four-digit dash number denoting the length of one complete cycle (expressed in milliseconds), and a suffix letter W for relays with less stringent EMI requirements and a suffix letter A for relays with more stringent EMI requirements.



Examples

The first three digits of the dash number are significant; the fourth digit is the number of zeros to follow the first three digits. The time delay is expressed in milliseconds and converted to seconds.

- M83726/22 - 1000W - Time delay repeat cycle 1 per 100 ms for printed-circuit type mounting.
- M83726/22 - 2500A - Time delay repeat cycle 4 per second with flange mounting.

Conformance inspection: Performance of group B and group C testing is not applicable.

MIL-R-83726/22F

Referenced documents. In addition to [MIL-PRF-83726](#), this document references the following:

[MIL-STD-202](#)
[MIL-STD- 461](#)
[MIL-STD-704](#)

[MIL-STD-883](#)
[MIL-STD-1285](#)
[MIL-STD-1686](#)

CHANGES FROM PREVIOUS ISSUE: The margins of this specification are marked with a vertical line to indicate where changes from the previous issues were made. This was done as a convenience only and the Government assumes no liability whatsoever for an inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Custodian:
Navy - EC
Air Force - 85
DLA – CC

Preparing activity:
DLA - CC

(Project 5945-2008-004)

Review activities:
Air Force - 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at www.assist.daps.dla.mil.