

INCH-POUND

MIL-PRF-83726/20G
16 December 2015
SUPERSEDING
MIL-PRF-83726/20F
10 June 2013

PERFORMANCE SPECIFICATION SHEET

RELAY, SOLID-STATE, TIME DELAY (ON OPERATE), TYPE I,
CLASS C, SPST, 250 MILLIAMPERES, FIXED TIME, 0.05 TO 500 SECONDS

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 sheet and [MIL-PRF-83726](#).

Inactive For New Design After 15 November 2002.

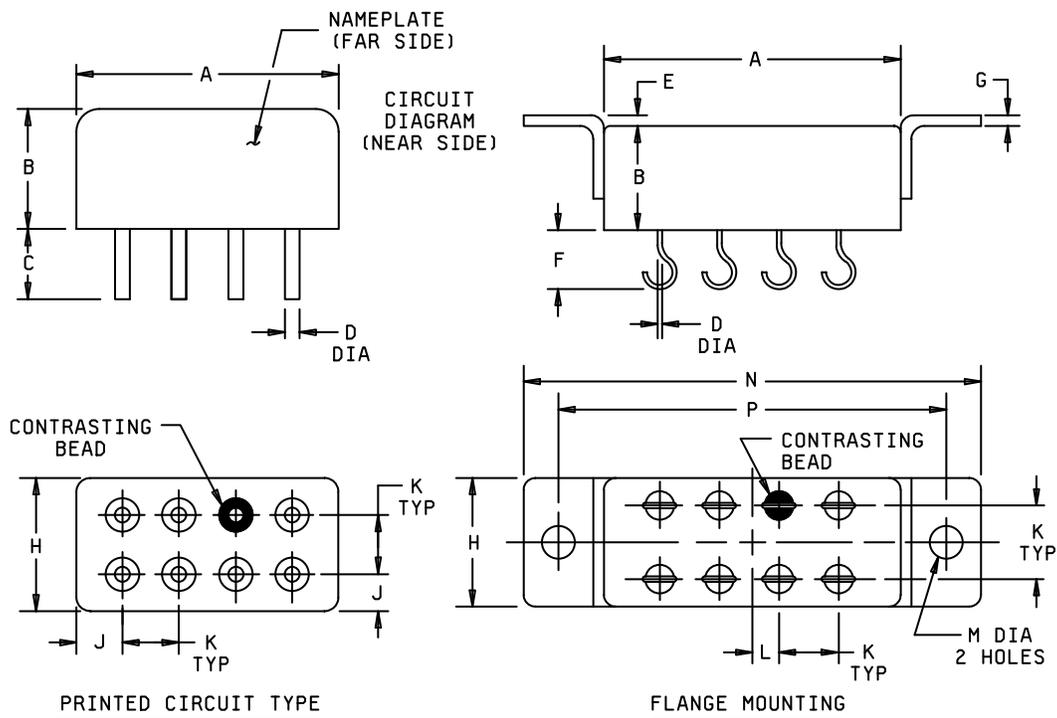
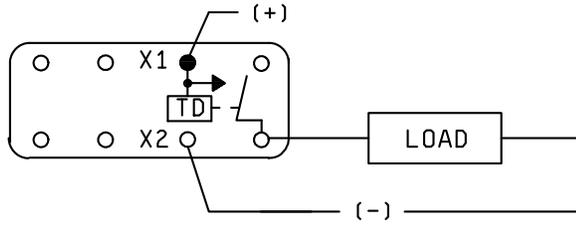
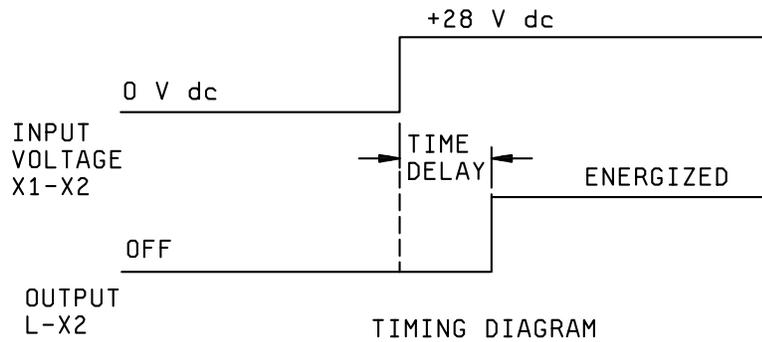


FIGURE 1. Outline drawing and dimensions.





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, tolerance is $\pm .010$ (0.25 mm) for three place decimals and $\pm .03$ (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. Outline drawing and dimensions – Continued.

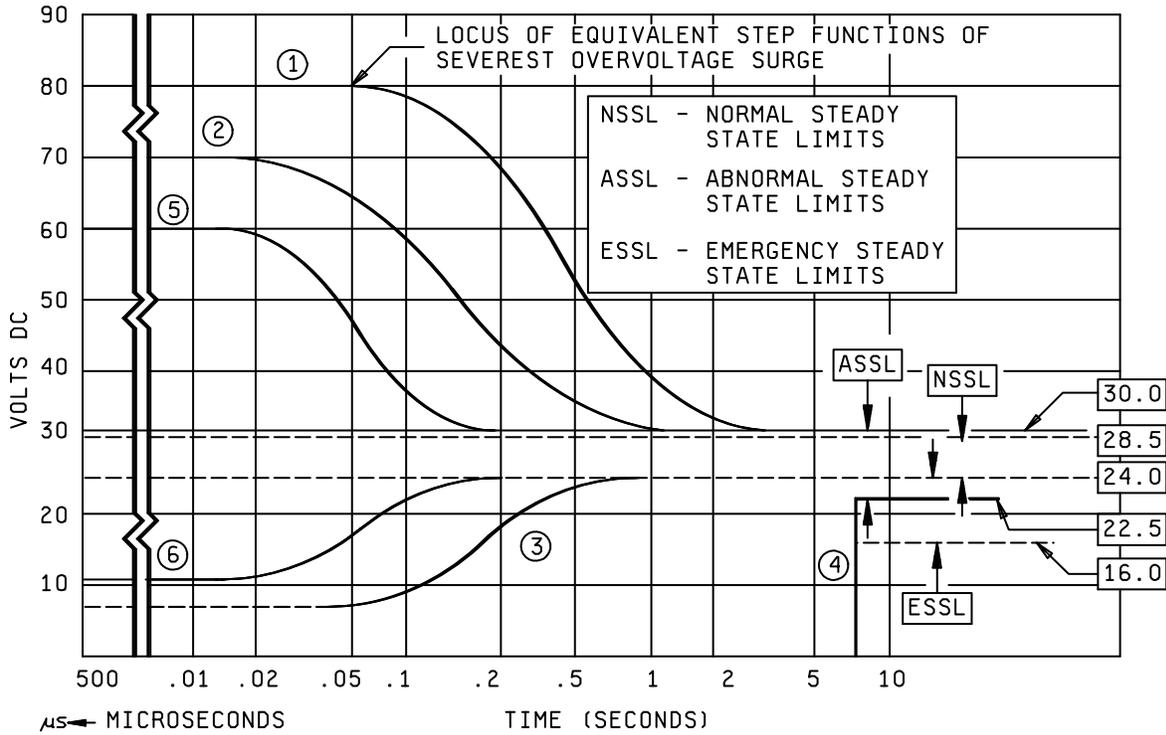


FIGURE 2. Transient surge dc voltage step function loci limits for category B equipment.

REQUIREMENTS:

OPERATING REQUIREMENTS:

Timing action: Delay-on-operate.

Time delay: Fixed, .05 seconds to 500 seconds.

Timing accuracy 1/: +10 percent of the nominal value.

Recycle time 2/: 10 milliseconds.

Power interrupt: The accuracy will not be affected by power interruptions up to 1 millisecond spaced at least 10 milliseconds apart.

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.)

INPUT REQUIREMENTS:

Input voltage: 28 V dc nominal; range 18 V dc 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 REQUIREMENTS:

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

Rating: 250 milliamperes maximum.

Suppression: Inductive suppression provided for output protection.

Voltage drop: 2 V dc maximum.

Leakage current: 1.0 microampere maximum at 28 V dc and 25°C; 10 microamperes maximum at 28 V dc and 125°C.

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

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

Group B: 1,000 hours.

ELECTRICAL REQUIREMENTS:

Transients: In accordance with [MIL-STD-704](#) and figure 2 (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, and 100 V dc at 80,000 feet between each pin and case.

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

ENVIRONMENTAL REQUIREMENTS:

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

Vibration (sinusoidal): 10 Hz to 100 Hz at 0.06 inch DA; 100 Hz to 3,000 Hz at 30 g's.

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

Maximum altitude rating: 80,000 feet.

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

MIL-PRF-83726/20G

Acceleration: 100 g's.

Seal: MIL-STD-883, method 1014, condition B and condition C.

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

PHYSICAL REQUIREMENTS:

Dimensions and configurations: See figure 1.

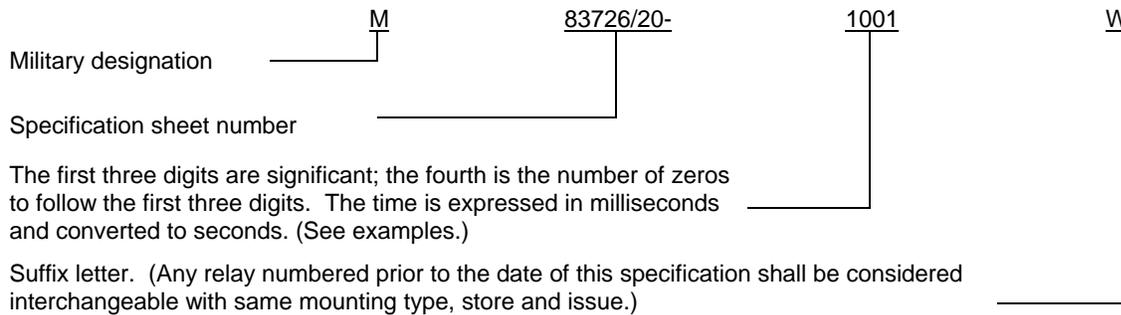
Terminations: See figure 1.

Terminal strength: 3 pounds pull.

Weight: 0.5 ounce.

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

Part or Identifying Number (PIN): The PIN shall be as follows: Consists of the prefix M83726/20-, a four digit dash number (time delay expressed in milliseconds), and a suffix letter (W for printed circuit mounting; A for flange mounting):



Examples:

- M83726/20-1001W – 1 second time delay, printed circuit mounting
- M83726/20-9002A – 90 second time delay, flange mounting

NOTE: Time delay relays within the 0.05 second to 500 second delay range are available.

NOTE: As of 15 June 1999, MIL-PRF-83726 no longer specifies Quality Levels, but existing order configurations may still include them. Relays with a "W" quality level indicator at the end are interchangeable with relays without a quality level letter.

Referenced documents. In addition to MIL-PRF-83726, this document references the following:

- MIL-STD-202-106 MIL-STD-202-214 MIL-STD-883 MIL-STD-461 MIL-STD-1285
- MIL-STD-704

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire context irrespective of the marginal notations and relationship to the previous issue.

Custodians:
Air Force - 85
DLA – CC

Preparing activity:
DLA - CC

Review activity:
Air Force - 19

(Project 5945-2016-005)

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 <https://assist.dla.mil>.