

INCH-POUND

MS25395J
27 November 2003
SUPERSEDING
MS25395H
5 Jun 1987

RELAYS, ELECTROMAGNETIC, 5 AMPERES,
2 PDT, TYPE I, HERMETICALLY SEALED

INACTIVE FOR NEW DESIGN AFTER 15 NOVEMBER
2002. NO SUPERSEDING SPECIFICATION.

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

The requirements for acquiring the relay described herein shall
consist of this specification and the latest issue of MIL-PRF-6106.

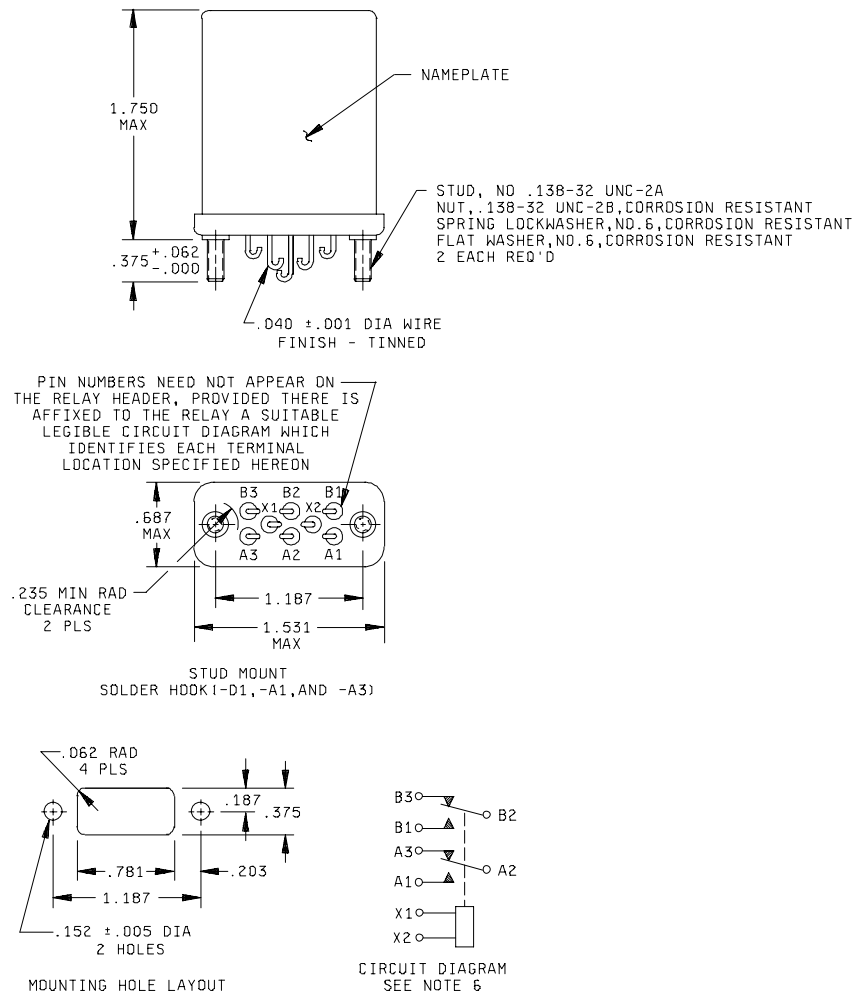
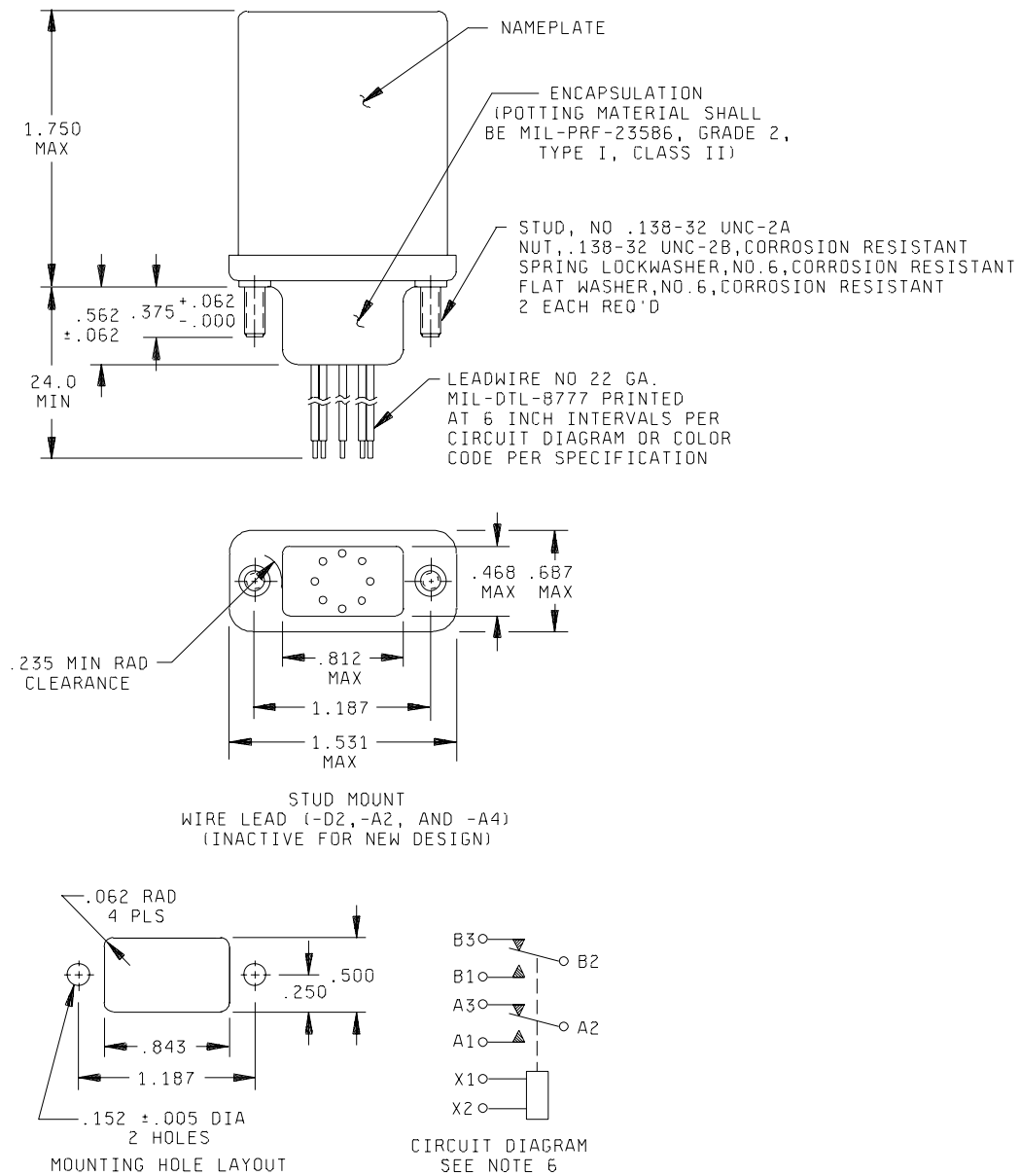


FIGURE 1. Dimensions and configurations.

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FIGURE 1. Dimensions and configurations - Continued.

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| Inches | mm | Inches | mm |
|--------|------|--------|-------|
| .001 | 0.03 | .468 | 11.89 |
| .005 | 0.13 | .500 | 12.70 |
| .040 | 1.02 | .562 | 14.27 |
| .062 | 1.57 | .687 | 17.45 |
| .152 | 3.86 | .781 | 19.84 |
| .172 | 4.37 | .812 | 20.62 |
| .187 | 4.75 | .843 | 21.41 |
| .203 | 5.16 | 1.187 | 30.15 |
| .235 | 5.97 | 1.531 | 38.89 |
| .250 | 6.35 | 1.750 | 44.45 |
| .375 | 9.53 | 24.00 | 610. |

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ± 0.010 (0.25 mm).
4. In the event of conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.
- 5/ Referenced Government documents of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation forms a part of this standard to the extent specified herein.
6. The use of diodes on ac relays is optional. Actual application must be shown on label (dash numbers -D2, -A2, and -A4 are inactive for new design).

FIGURE 1. Dimensions and configurations - Continued.TABLE I. Dash numbers and characteristics.

| Dash number MS25395- | Type | Coil | Terminal type | Mounting or mating socket | Max weight in pounds |
|-------------------------|------|------|---------------|------------------------------|-------------------------|
| D1 | I | dc | Solder hook | Stud | 0.15 |
| D2 <u>1/</u> | I | dc | Potted lead | Stud | 0.26 |
| A1 | I | ac | Solder hook | Stud | 0.17 |
| A2 <u>1/</u> | I | ac | Potted lead | Stud | 0.28 |
| A3 | I | ac | Solder hook | Stud | 0.17 |
| A4 <u>1/</u> | I | ac | Potted lead | Stud | 0.25 |

TABLE II. Operating characteristics.

| PIN MS 25395- | Coil data | | | | | | | | | | Time - (milliseconds maximum) | | | | | | |
|---------------------|-----------|-------------|------------|----------|-------|------|---------------------|-------------------|-------------------------|------------------------|-------------------------------|----------------|---------------|----------------|----|-----|-----|
| | Coil | Nominal | | | Max | | Max pick-up voltage | | | Drop out voltage 2/ | Hold voltage 2/ | Oper-ate 3/ | Release 4/ | Contact Bounce | | | |
| | | Volts 1/ | Freq Hz | Res Ω | Volts | Amp | Normal 2/ | High temp test | Cont current test | | | | | Main | | Aux | |
| | | | | | | | | | | | | | | NO | NC | NO | NC |
| D1 | X1,X2 | 28 | dc | N/A | 29 | 0.15 | 18 | 19.8 | 22.5 | 1.5 | 7.0 | 20 | 20 | 2 | 2 | --- | --- |
| A1 | X1,X2 | 115 | 400 | N/A | 122 | 0.06 | 90 | 95 | 103 | 5.0 | 35 | 25 | 50 | 2 | 2 | --- | --- |
| A3 | X1,X2 | 115 | 50/ 60 | N/A | 122 | 0.07 | 90 | 95 | 103 | 5.0 | 35 | 25 | 50 | 2 | 2 | | |

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- 1/ CAUTION: Use of any coil voltage less than rated coil voltage will compromise the operation of the relay.
 2/ Over the temperature range.
 3/ With nominal coil voltage.
 4/ From nominal coil voltage.

TABLE III. Rated contact load (amperes per pole) (case grounded).

| Type of load | Life operat ing cycles x 10 ³ | 28 V dc | | | | 115 V ac, 1 phase | | | | 115/200 V ac, 3 phase 1/ | | | | See appro priate notes |
|---------------------------------------|--|------------------------------|------|-----|----|-------------------|----------|-----------|----------|--------------------------|----------|-----------|----------|---------------------------------|
| | | Main | | Aux | | Main | | Aux | | Main | | Aux | | |
| | | NO | NC | NO | NC | 400 Hz | 60 Hz | 400 Hz | 60 Hz | 400 Hz | 60 Hz | 400 Hz | 60 Hz | |
| Resistive | 100 | 5 | 5 | | | 5 | 4 | | | | | | | |
| Inductive | 100 | | | | | | | | | | | | | |
| Inductive | 20 | 3 | 3 | | | 3 | 2 | | | | | | | |
| Motor | 100 | 1.5 | 1.5 | | | 1.5 | 1 | | | | | | | |
| Lamp | 100 | 0.8 | 0.8 | | | 0.8 | 0.6 | | | | | | | |
| Transfer load | | | | | | | | | | | | | | 2/ |
| Mechanical life reduced current | 400 | 1.25 | 1.25 | | | 1.25 | 1 | | | | | | | |
| Mixed loads | | Applicable per specification | | | | | | | | | | | | |

1/ Absence of value indicates relay is not rated for 3-phase application.

2/ Transfer load indicates relay is suitable for transfer between unsynchronized ac power supplies at rating indicated.

Environmental characteristics.

| | |
|------------------------------|-----------------|
| Temperature range | -70°C to +125°C |
| Max altitude rating | 80,000 ft |
| Shock G-level | 50 g's |
| Duration | 11 ms |
| Max duration contact opening | 10 μs |
| Vibration – sinusoidal | |
| G-level | 10 G |
| Frequency range | 5 - 1,500 Hz |
| Acceleration | 15 g's |

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Electrical characteristics.

Insulation resistance, initial 100 megohms.

After life or environmental tests 50 megohms.

Dielectric strength (sea level).

| | <u>Initial</u> | <u>After life tests</u> |
|------------------|----------------|-------------------------|
| Coil to case | 1,000 V rms | 1,000 V rms |
| Aux contacts | N/A | N/A |
| All other points | 1,500 V rms | 1,125 V rms |

Dielectric strength (altitude):

| | <u>80,000</u> | <u>80,000 ft</u> |
|------------------|---------------|------------------|
| Coil to case | 250 V rms | 1,000 V rms |
| Aux contacts | | |
| All other points | 250 V rms | 250 V rms |

Max contact drop initial: 0.150 volt.

After life test: 0.175 volt.

Overload current (NO): 20 amperes

Rupture current 25 amperes

Duty rating: Continuous.

RFI specification: MIL-STD-461.
(Applicable to coil circuits of ac operated relays).

Conformance inspection.

Performance of groups B and C tests may be suspended at the discretion of the qualifying activity.

Qualification by similarity: See MIL-PRF-6106.

NOTES

Referenced documents. In addition to MIL-PRF-6106, this specification sheet references the following documents. (Government documents are available on line at <http://assist.daps.dla.mil/quicksearch> or www.dodssp.daps.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094).

SPECIFICATIONS

Department of Defense

MIL-DTL-8777 - Wire, Electrical, Silicone-Insulated, Copper, 600-Volt, 200 Deg. C

MIL-PRF-23586 - Sealing Compound (with Accelerator), Silicone Rubber, Electrical

STANDARDS

Department of Defense

MIL-STD-461 - Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment

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Custodians:

Navy - AS
Air Force - 11
DLA - CC

Preparing activity:

DLA - CC

(Project 5945-1214-11)

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 ASSIST Online database at www.dodssp.daps.mil.