

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.

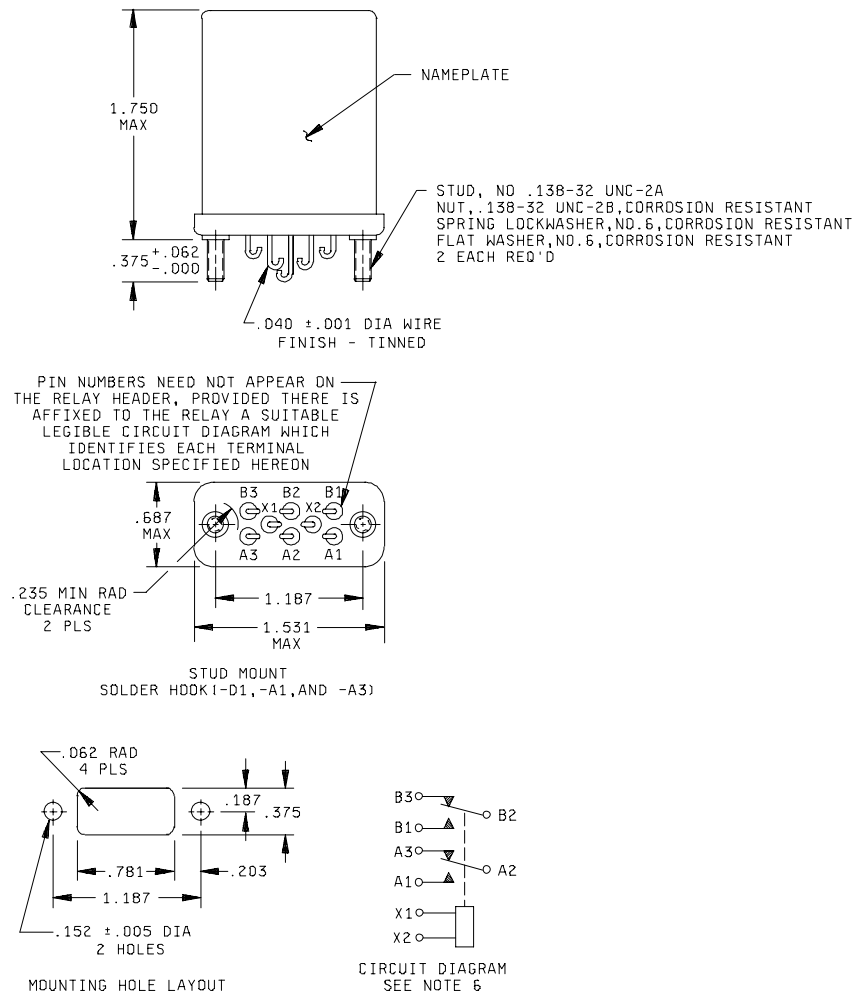
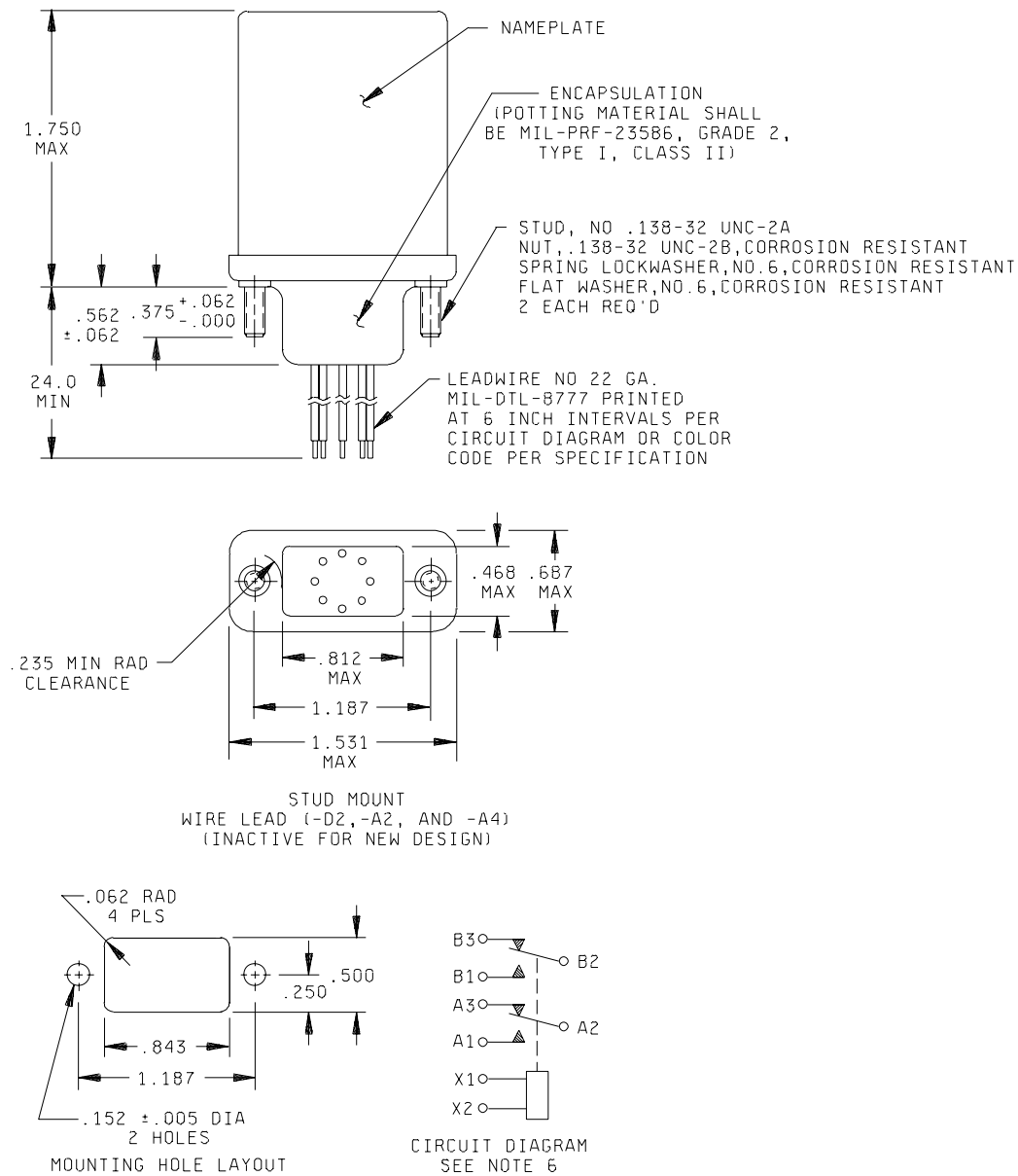


FIGURE 1. Dimensions and configurations.

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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  $\pm 0.010$  (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 volt- age 2/	Oper- ate 3/	Rel- ease 4/	Contact Bounce			
														Main		Aux	
		Volts 1/	Freq Hz	Res Ω	Volts	Amp	Normal 2/	High temp test	Cont current test					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 <sup>3</sup>	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](http://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](http://www.dodssp.daps.mil).