

INCH-POUND

MS25466F  
 27 November 2003  
 SUPERSEDING  
 MS25466E  
 20 Jan 1989

## DETAIL SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 10 AMPERES, 2 PDT  
 TYPE I, MAGNETIC LATCH, STUD MOUNTED,  
 SOLDER HOOKS, HERMETICALLY SEALED

INACTIVE FOR NEW DESIGN AFTER 5 JUN 1987.NO  
 SUPERSEDING SPECIFICATION. (FOR NEW DESIGN  
 USE MIL-PRF-6106/38)

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.

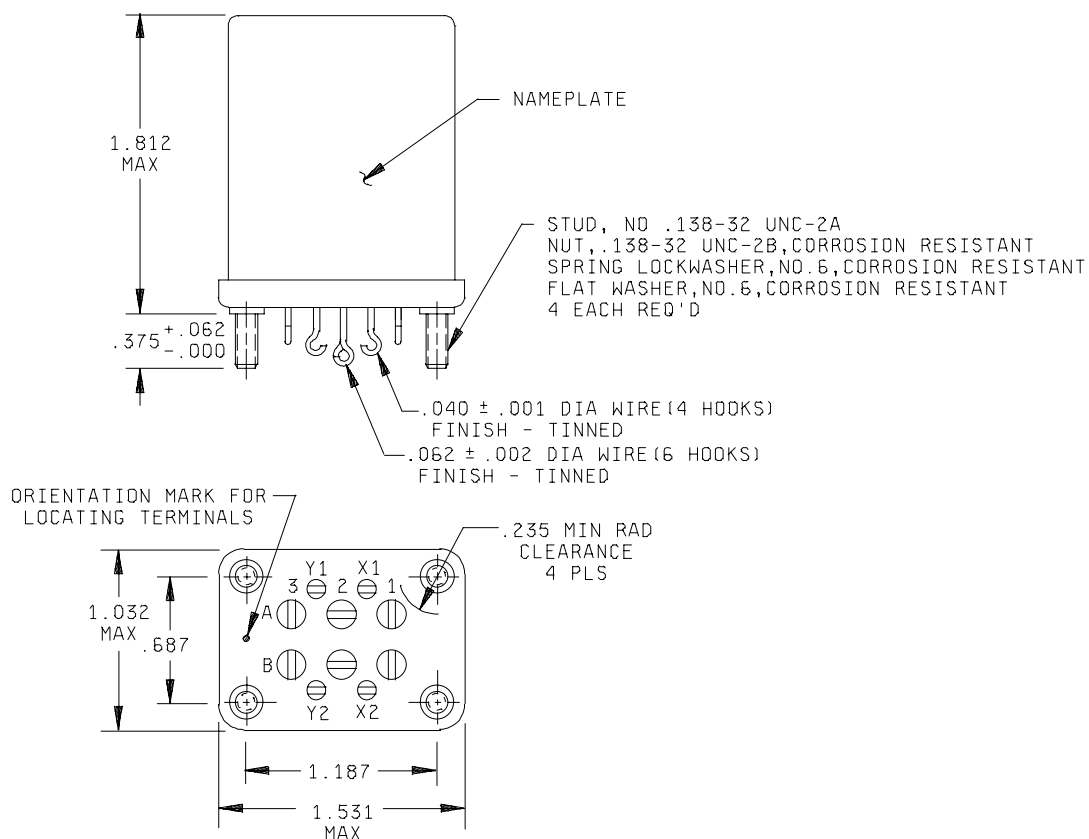
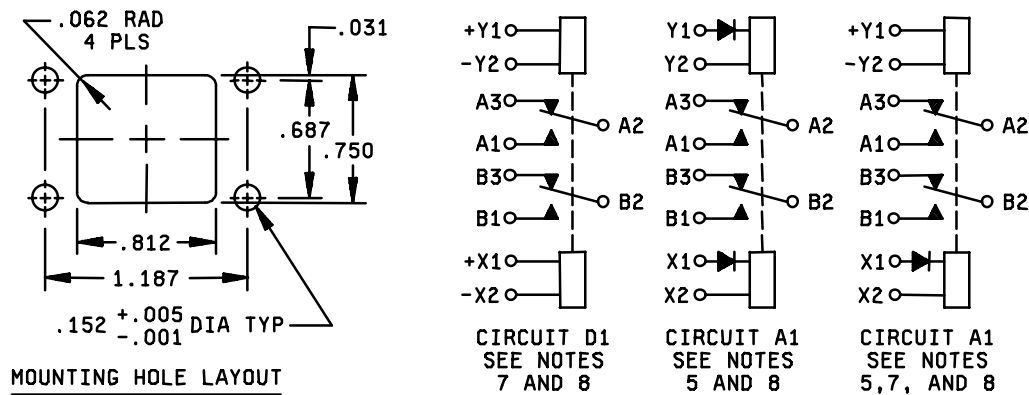


FIGURE 1. Design, dimensions, and circuit diagram.

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## 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).
- 4/ Terminal numbers need not appear on relay headers provided there is affixed to the relay a suitable legible circuit diagram that permanently and positively identifies each terminal location specified hereon.
- 5/ The use of diodes on ac relays is optional. Actual application must be shown on label.
- 6/ Shock, vibration, and acceleration requirements application with coils de-energized
- 7/ Relay is magnetically latched in both positions. Caution note to observe polarity must appear on relays with dc coils.
- 8/ Caution note to observe polarity must appear on relays with dc coils.
- 9/ In the event of conflict between the text of this specification and the references cited herein, the text of this standard shall take precedence.
- 10/ 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 form a part of this standard to the extent specified herein.

Inches	mm
.000	0.00
.001	0.03
.002	0.05
.005	0.13
.031	0.79
.040	1.02
.062	1.57
.152	3.86
.187	4.75
.235	5.97
.375	9.53
.687	17.45
.750	19.90
.812	20.62
1.030	26.21
1.531	38.89
1.812	46.02

TABLE I. Dash numbers and characteristics.

Dash number MS25466-	Type	Coil	Terminal type	Mounting means	Max weight in pounds
D1	I	dc	Solder hook	Stud	0.30
A1	I	ac	Solder hook	Stud	0.32
AD1	I	ac-dc	Solder hook	Stud	0.32

FIGURE 1. Design, dimensions, and circuit diagram - Continued.

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TABLE II. Operating characteristics.

PIN MS25466-	Coil data											Time - milliseconds max				
	Coil	Rated			Max		Max pick-up voltage			Drop out voltage	Operate <sup>3/</sup>	Release <sup>4/</sup>	Contact Bounce			
		Volts <sup>1/</sup>	Freq Hz	Ω Res	Volts	Amp	Normal <sup>2/</sup>	High temp test	Cont current test				Main		Aux	
													NO	NC	NO	NC
D1	X1, X2 Y1, Y2	28	dc	N/A	29	0.17	18	18	19.8	N/A	25	N/A	2	2	N/A	N/A
A1	X1, X2 Y1, Y2	115	400 <sup>5/</sup>	N/A	122	0.07	90	90	95	N/A	25	N/A	2	2	N/A	N/A
AD1	X1, X2	115	400 <sup>5/</sup>	N/A	122	0.07	90	90	95	N/A	25	N/A	2	2	N/A	N/A
	Y1, Y2	28	dc	N/A	29	0.17	18	18	19.8	N/A	25	N/A	2	2	N/A	N/A

<sup>1/</sup> CAUTION: Use of any coil voltage less than rated coil voltage will compromise the operation of the relay.

<sup>2/</sup> Over the temperature range.

<sup>3/</sup> With nominal coil voltage.

<sup>4/</sup> From nominal coil voltage.

<sup>5/</sup> MS25466-A1 and -AD1 may be used on 60 Hz if maximum ambient temperature is limited to +85°C (maximum coil current shall be 0.077 ampere).

TABLE II. 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	10	10			10	6			10	6			
Inductive	100													
Inductive	20	6	6			10	4			10	4			
Motor	100	4	4			4	3			4	3			
Lamp	100	2	2			2	1.5			2	1.5			
Transfer load														<u>2/</u>
Mechanical life reduced current	400	2.5	2.5			2.5	2			2.5	2			
Mixed loads	Applicable per specification													

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

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

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## REQUIREMENTS:

## 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's
Frequency range	5-1,500 Hz
Acceleration	15 g's

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		
All other points	1,000 V rms	1,000 V rms

## Dielectric strength (altitude).

	(When mounted in mating socket)
	<u>80,000 ft</u>
Coil to case	250 V rms
Aux contacts	
All other points	350 V rms

## Max contact voltage drop:

Initial	0.150 volt.
After life test	0.175 volt.
Overload current	40 amperes dc, 60 amperes ac.
Rupture current	50 amperes dc, 80 amperes ac.

