INCH-POUND

MS25463J
27 November 2003
SUPERSEDING
MS25463H
7 December 1993

DETAIL SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 6 PDT, 5 AMPERES, TYPE I, MAGNETIC LATCH, SOCKET MOUNTED, HERMETICALLY SEALED

INACTIVE FOR NEW DESIGN AFTER 30 SEPTEMBER 1987. 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.

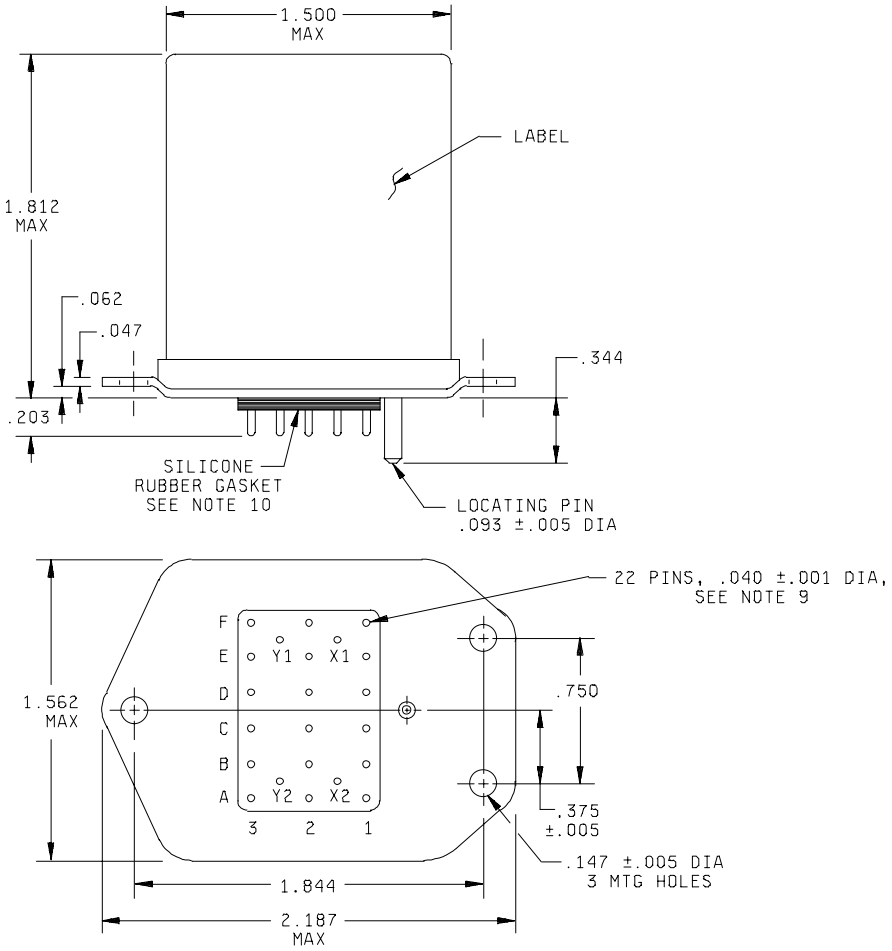
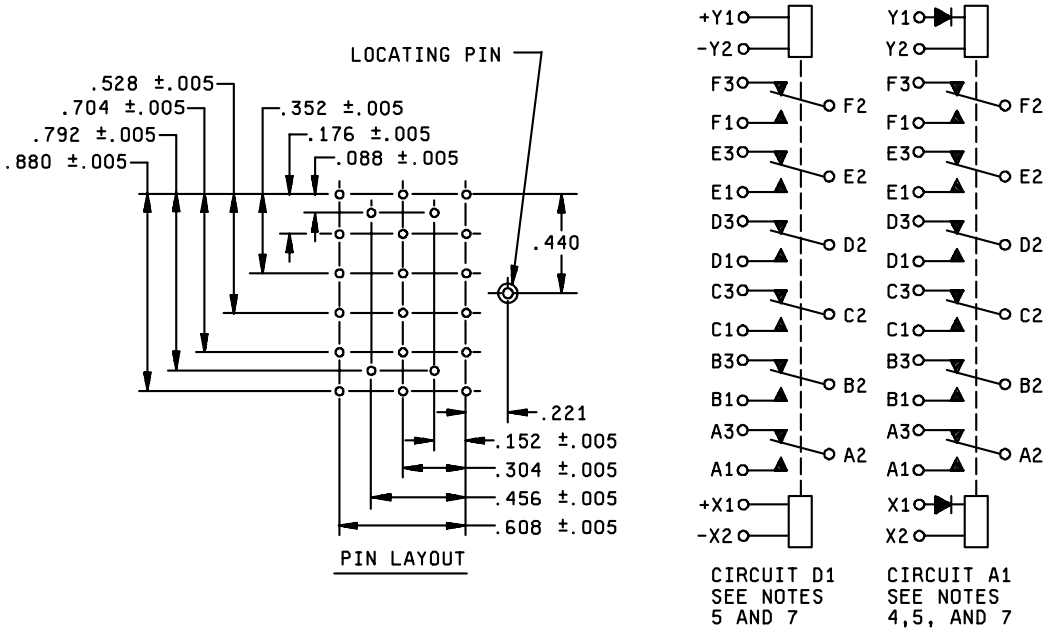


FIGURE 1. Design, dimensions, and circuit diagram.



Inches	mm	Inches	mm
.001	0.03	.352	8.94
.005	0.13	.375	9.53
.010	0.25	.456	11.58
.040	1.02	.528	13.41
.047	1.19	.608	15.44
.062	1.57	.704	17.88
.075	1.91	.750	19.05
.088	2.24	.792	20.12
.093	2.36	.880	22.35
.147	3.73	1.500	38.10
.152	3.86	1.562	39.67
.176	4.47	1.812	46.02
.203	5.16	1.844	46.84
.221	5.61	2.187	55.55
.304	7.72		

NOTES:
1/ Dimensions are in inches.
2/ Metric equivalents are given for general information only.
3/ Unless otherwise specified, tolerance is ±.010 (0.25 mm).
4/ The use of diodes on ac relays is optional. Actual application must be shown on label.
5/ 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.
6/ Pins to be perpendicular to header surface within 1 degree.
7/ Relay is magnetically latched in both positions. Caution note to observe polarity must appear on relays with dc coils.
8/ Shock, vibration, and acceleration requirements application with coils de-energized.

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

9/ Socket pin terminals shall provide the operational, environmental, and interface characteristics to provide a reliable interconnect to gold-plated contacts. Terminals shall be gold plated. One system for gold plating that may be used is ASTM B488, type 3, class 1.25 with a nickel underplate of 50 to 150 microinches thick. The gold plating system shall enable the product to meet the performance requirements of this specification and shall be approved by the qualifying activity.

10/ Gasket shall provide a reliable seal between the relay and mating socket that will meet the environmental, operational, and interface requirements of the relay with the mating socket. The gasket shall have thickness .075, recessed .047 in to bracket. Gasket material according to AMS 3332 has been considered acceptable.

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

REQUIREMENTS:

Dimensions, configuration, and circuit diagrams: See figure 1.

Part or Identifying Numbers (PINs) and general characteristics: See table I.

Contact data:

Load ratings: See table II.

Maximum contact drop:

Initial: 0.150 V.

After life test: 0.175 V.

Overload current: 20 amperes.

Rupture current: 25 amperes.

Coil data: See table III.

Duty rating: Continuous.

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

Electrical data:

Minimum insulation resistance:

Initial: 100 megohms.

After life or environmental test: 50 megohms.

Dielectric strength (sea level).

	Initial	After life tests
Coil to case	1,000 V rms	750 V rms
Aux contacts	N/A	N/A
All other points	1,000 V rms	750 V rms

Dielectric strength (80,000 feet, when mounted in mating socket):

Coil to case	250 V rms	N/A
Aux contacts	N/A	N/A
All other points	250 V rms	N/A

Environmental characteristics:

Temperature range: -70°C to +125°C.

Maximum altitude rating: 80,000 feet.

Shock g-level: 50 g's.

Duration: 6 ms.

Maximum duration contact opening: 100 μs.

Vibration, sinusoidal:

G-level: 10 g's.

Frequency range: 5 - 1,500 Hz.

Acceleration: 15 g's.

Conformance inspection:

Performance of groups B and C tests is not applicable.

Qualification by similarity: See MIL-PRF-6106.

PIN: MS25463- (plus applicable dash number from table I).

TABLE I. PINs and general characteristics. 1/

Dash number MS25463-	Type	Coil	Terminal type	Mounting means	Max weight in pounds
D1	I	dc	Plug in	Bracket	0.40
A1	I	ac	Plug in	Bracket	0.42

1/ MS25463-AD1 is cancelled without replacement.

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

Type of load	Life operating cycles x 10^3	28 V dc				115 V ac, 1 phase				115/200 V ac, 3 phase 1/				See appropriate 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.
3/ Absence of value indicates parameter is not applicable.

TABLE III. Operating characteristics.

PIN MS25463-	Coil data									Time (milliseconds maximum)					
	Coil	Rated			Max		Max pick-up voltage			Operate 3/	Release 4/	Contact Bounce			
												Main		Aux	
		Volts 1/	Freq Hz	Res Ω ±10% 6/	Volts	Amp	Normal 2/	High temp test	Cont current test			NO	NC	NO	NC
D1	X1, X2 Y1, Y2	28	dc	N/A	29	0.17	18	19.8	22.5	25	N/A	2	2	N/A	N/A
A1	X1, X2 Y1, Y2	115	400 5/	N/A	122	0.07	90	95	108	25	N/A	2	2	N/A	N/A

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 rated coil voltage.
4/ From rated coil voltage.
5/ MS25463-A1 may be used on 60 Hz if maximum ambient temperature is limited to +85°C. Maximum current coil will be 0.077 ampere.
6/ Absence of values indicates parameter is not applicable.

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). Society of Automotive Engineers documents are available from the Society of Automotive Engineers 400 Commonwealth Drive Warrendale, Pennsylvania, United States, 15096-0001. http://www.sae.org

STANDARDS

Department of Defense

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

Society of Automotive Engineers (SAE)

SAE-AMS3332 - Silicone Rubber Extreme Low-Temperature Resistant, 15-30

Custodians:
Navy - AS
Air Force - 11
DLA - CC

Preparing activity:
DLA - CC

(Project 5945-1221-15)

Review activities:
Navy - EC

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.