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INCH-POUND

MS27255K
27 November 2003
SUPERSEDING
MS27255H
10 Feb 1989

DETAIL SPECIFICATION SHEET

RELAYS, ELECTROMAGNETIC, 10 AMPERES, 4 PDT TYPE I, SOLDER HOOKS, HERMETICALLY SEALED

INACTIVE FOR NEW DESIGN AFTER 5 JUNE 1987. NO SUPERSEDING SPECIFICATION. FOR NEW DESIGN, USE MIL-PRF-83536/15, 16, 17.

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.

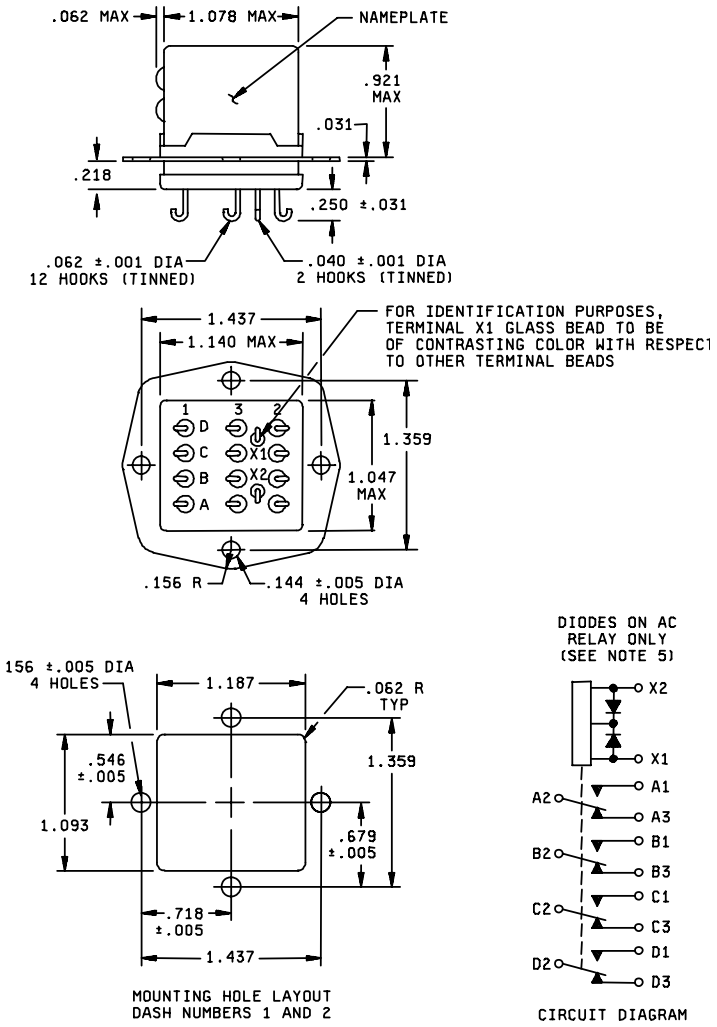

FIGURE 1. Dimensions and configuration.

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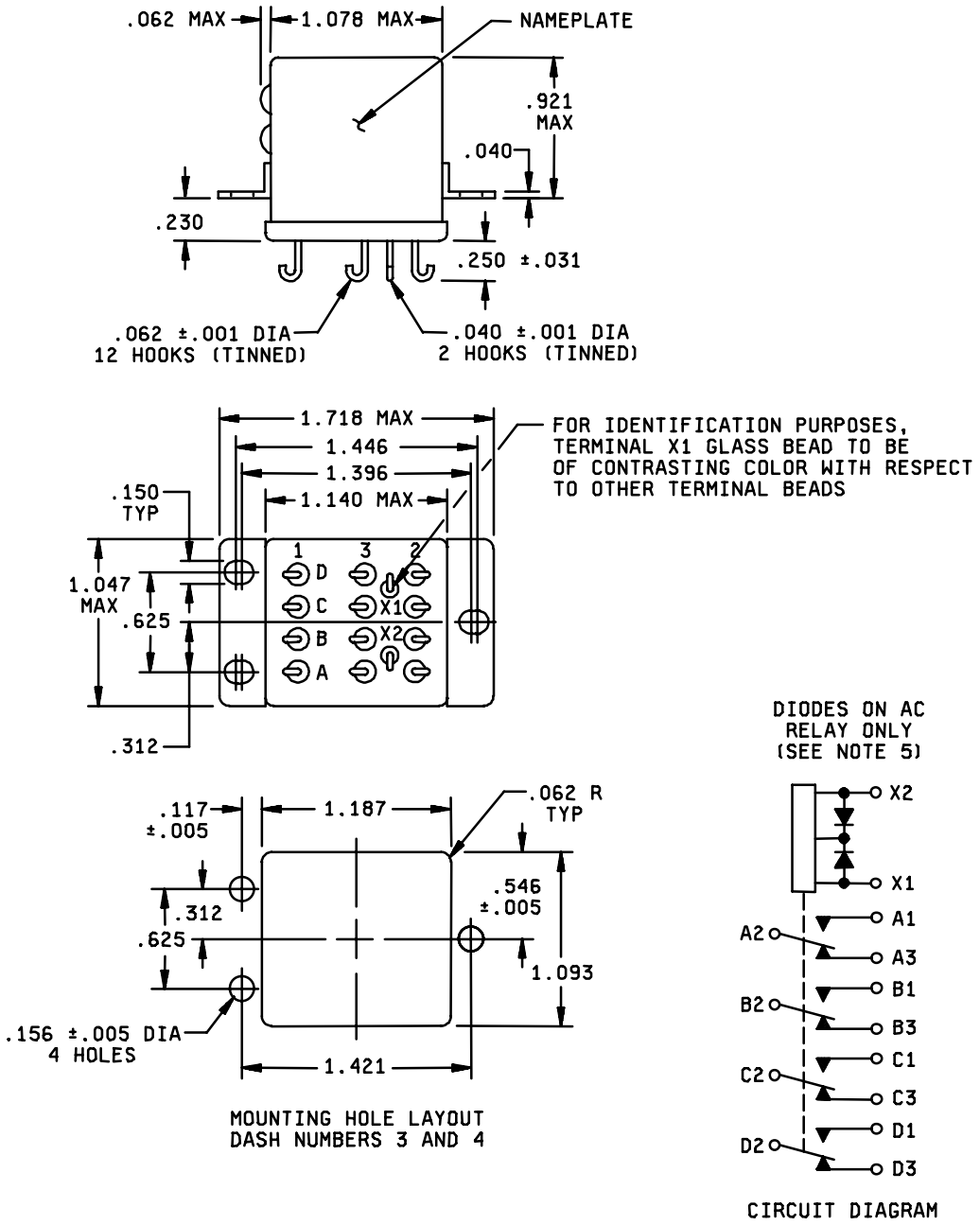

FIGURE 1. Dimensions and configurations - Continued.

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Inches	mm	Inches	mm	Inches	mm
.001	0.03	.230	5.84	1.093	27.76
.005	0.13	.250	6.35	1.140	28.96
.031	0.79	.312	7.92	1.187	30.15
.040	1.02	.315	13.87	1.359	34.52
.062	1.57	.546	15.88	1.396	35.46
.117	2.97	.679	17.25	1.437	36.50
.144	3.66	.718	18.24	1.446	36.73
.150	3.81	.921	23.39	1.718	43.64
.156	3.96	1.047	26.59		
.218	5.54	1.078	27.38		

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ±.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 identifies each terminal location specified.
5. The use of diodes on ac relays is optional. Actual application must be shown on label.
6. In the event of a conflict between the text of this standard and the references cited herein, the text of this standard shall take precedence.
7. 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 specification to the extent specified herein.

TABLE I. Dash numbers and characteristics.

Dash number MS27255-	Type	Coil	Terminal type	Mounting Or mating socket	Max weight in pounds
1	I	a	Solder hook	Bracket	.20
2	I	dc	Solder hook	Bracket	.20
3	I	ac	Solder hook	Bracket	.20
4	I	dc	Solder hook	Bracket	.20

FIGURE 1. Dimensions and configurations - Continued.

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TABLE II. Operating characteristics.

Part no. MS 27255	Coil data											Time - (milliseconds maximum)					
	Coil	Nominal			Max		Max pick-up voltage			Hold voltage 2/	Drop out voltage 2/	Operate 3/	Release 4/	Contact Bounce			
														Main		Aux	
		Volts 1/	Freq Hz	Ω Res	Volts	Amp	Normal 2/	High temp test	Cont current test					NO	NC	NO	NC
-1 and -3	a	115	400	N/A	120	.04	90	95	103	30	5.0	15	30	3	5	---	---
-2 and -4	dc	28	N/A	160	29	.20	18	19.5	22.5	7	1.5	10	10	3	5	---	---

1/ Caution: Use of any coil voltage less than nominal 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 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	10	10			10				10				
Inductive						10				10				
Inductive	50	10	10											
Motor	100	5	5			5				5				2/
Lamp	100	3	3			3				3				2/
Transfer load														3/
Mechanical life reduced current	400	2.5	2.5											
Mixed loads	Applicable per specification													

1/ Absence of value indicates relay is not rated for 3 phase applications.
2/ 100,000 operations - on NO contacts, and 50,000 operations on NC contacts at 28 V dc.
3/ Transfer load indicates relay is suitable for transfer between unsynchronized ac power supplies at rating indicated.

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Environmental characteristics:

Temperature range: -70°C to +125°C.

Maximum altitude rating: 80,000 feet.

Shock g-level: 50 g's.

Duration: 11 ms.

Max duration contact opening: 10 µs.

Vibration - sinusoidal:

G-level: 20 g's.

Frequency range: 10 - 2,000 Hz.

Vibration - random.

Applicable specification	N/A.
Power spectral density	N/A.
RMS G min	N/A.
Frequency range	N/A.
Curve	N/A.
High shock	N/A.

Acceleration: 15 g's.

Electrical characteristics:

Insulation resistance, initial: 100 megohms.

After life or environmental tests: 50 megohms.

Dielectric strength (sea level):

	Initial	After life tests
Coil to case	1,000 V rms	1,000 V rms
Aux contacts	N/A	N/A
All other points	1,500 V rms	1,000 V rms

1/ Dielectric strength (altitude):

		80,000 ft
Coil to case	N/A	250 V rms
Aux contacts	N/A	
All other points	N/A	350 V rms

1/ Dielectric rating may be improved by suitable insulation of terminals and wiring after installation.

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Maximum contact drop initial: 0.150 volt.

After life test: 0.175 volt.

Overload current: 40 amperes dc.

Rupture current: 50 amperes dc.

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 are not applicable.

Group A acceptance reports shall be submitted to the qualifying activity on a yearly basis in order to retain qualification for this military specification sheet.

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). 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

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

Review activities:
Navy - EC

Preparing activity:
DLA - CC

(Project 5945-1221-18)

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.