

INCH-POUND

AN3306
REVISION 7
31 January 2013
SUPERSEDING
REVISION 6
1 February 2006

DETAIL SPECIFICATION SHEET
RELAY, 10 AMP, 2 PDT, SEALED,
CONNECTOR MOUNTING, CLASS O

Inactive for new design after 17 November 1954.
No superseding document.

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.

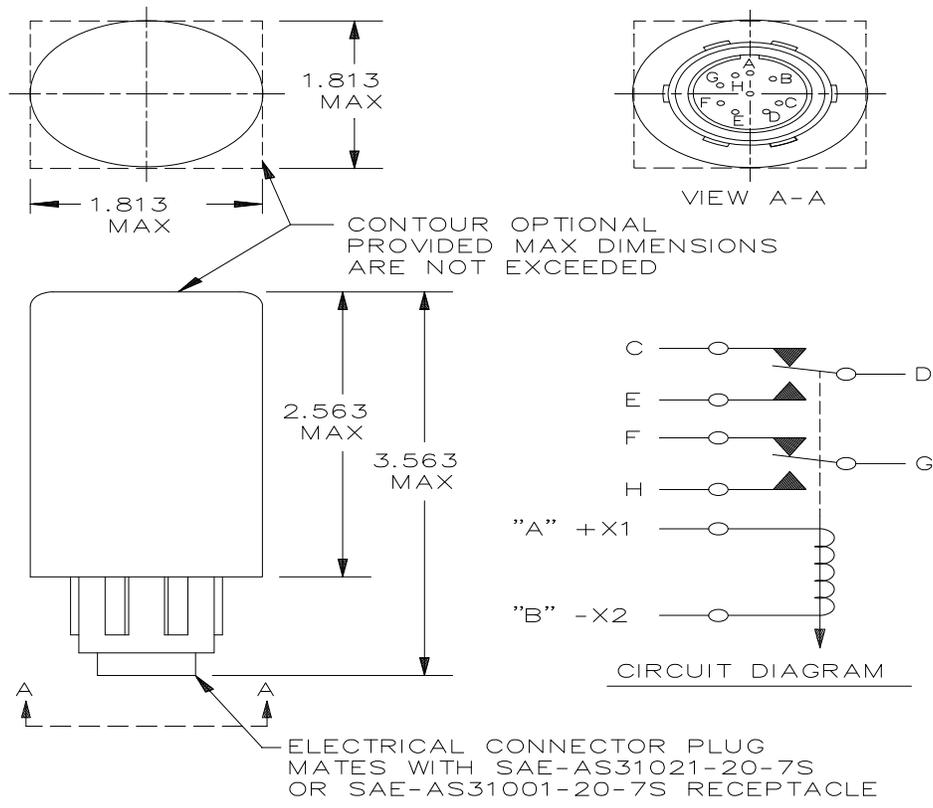


FIGURE 1. Configurations and dimensions.

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Inches	mm
.016	0.406
1.813	46.050
2.563	65.100
3.563	90.500

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerances are ± 0.016 (0.406 mm).

FIGURE 1. Configurations and dimensions - Continued.

REQUIREMENTS

Operating cycles: 50,000 minimum.

Contact data:

Contact voltage drop:

Initial: 0.150 volt maximum. Applicable only for AN3306-2.

After life: 0.175 maximum. Applicable only for AN3306-2.

Load ratings: See [Table I](#).

TABLE I - Rated contact load (per pole).

Type of load	Amperes
Resistive (DC)	10
Resistive (AC 400 Hz, 115 volts)	10
Inductive	10
Motor	6

Overload current: See [MIL-PRF-6106](#). Not applicable to AN3306-1.

Rupture current: See [MIL-PRF-6106](#). Not applicable AN3306-1.

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Coil data:

- Nominal coil voltage: 28 volts.
- Maximum operating voltage: 29 volts.
- Pickup voltage: 18 volts.
- Hold voltage: 7 volts
- Dropout voltage: 1.5 volts.
- Rated duty: Continuous.
- Coil current: 0.35 amperes, maximum.

Physical data:

Weight: 0.5 pounds, maximum.

Qualification by similarity: See [MIL-PRF-6106](#).

Retention of qualification: To retain qualification, the manufacturer shall submit group A acceptance reports on a yearly basis to the qualifying activity.

Dielectric strength:

		Sea level (V rms)		Altitude (V rms)	
		Initial	After life	80,000 feet	
Coil to case:				-1	-2
All of the points:		1,000	1,000	250	500
		1,250	1,000	250	500

Environmental requirements:

Temperature range: -65 °C to +120 °C.

Shock (specified pulse): Applicable, [MIL-STD-202](#), method 213, test condition A, 25 g's, 6-9 milliseconds. Contact chatter shall not exceed 10 milliseconds maximum opening for closed contacts and 1 microsecond maximum closure for open contacts.

Vibration (sinusoidal): Applicable, [MIL-STD-202](#), method 204, test condition A, ± 10 g's or .036 DA whichever is less from 5 to 500 Hz. Contact chatter shall not exceed 10 microseconds maximum opening for closed contacts and 1 microsecond maximum closure for open contacts.

Hermetically-sealed (potted) relay: Relays shall be tested as follows:

- Prior to installing a gasket on the relay header (if a gasket is used), the relay shall be totally immersed in a container of "tap" water. (The "tap" water as used here means ordinary drinking water that has not been altered in any way, such as by the addition of any other substance, distilling, etc.) The part of the relay closest to the surface of the water shall be a minimum of 1 inch (25.4 mm) below this surface.

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- b. The container and water-cover relay shall then be placed in a vacuum chamber. The chamber shall be sealed. The chamber pressure shall be reduced from room ambient to 0.82 inch (80,000 feet) +0.0 inch -0.2 inch of mercury within 5 minutes, and shall be maintained at this level for 30 minutes minimum. The chamber pressure shall be increased to room ambient within 1 minute, and shall be maintained at room ambient pressure for 30 minutes, minimum. The foregoing shall constitute open cycle. The relay shall remain fully immersed in the water during the cycle.
- c. Within a maximum of one-half hour after the cycle, each relay shall be removed from the water and dried by shaking, wiping, or blowing with contaminant-free air or gas, but not by any form of heating or baking.
- d. Within a maximum of one-half hour after drying, each relay shall be subject to the DWV and IR tests.

Life test requirement 50,000 cycles minimum.

Qualification by similarity: If the relay case, frame, or enclosure contains integral sealed electromagnetic relays (mounting means excepted) currently listed on the qualified products list of MIL-PRF-83536/32, reduced testing shall consist of subjecting four sample units to the shock and vibration requirements of this specification sheet. Post tests shall include insulation resistance, dielectric withstanding voltage and electrical characteristics, and seal. One unsealed unpotted unit shall be submitted to the qualifying activity.

VERIFICATION:

Group A.

- a. Group A1: Run-in. This subgroup may be waived by the qualifying activity if fully tested sealed MIL-PRF-83536/32 relays are used internally.
- b. Group A2: 100 percent.
- c. Dielectric withstanding voltage:
 - (1) Tests to be conducted at sea level rating only.
 - (2) Duration of application: 5-10 seconds at a 10 percent increase in the dielectric strength voltage.

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

Group B and group C testing are not required. The manufacturer shall notify the qualifying activity in the event of any design or construction changes, and the qualifying activity may impose additional testing requirements as necessary.

Part or Identifying Number (PIN): AN3306-1 and AN3306-2.

NOTES:

AN3306-2 relays shall meet the mixed loads current requirements specified in [MIL-PRF-6106](#). The relay shall be equipped with a glass to metal sealed electrical connector.

Supersession information: Supersedes USAF Drawing [50B6186](#).

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Referenced documents. In addition to [MIL-PRF-6106](#), this document references the following:
[MIL-STD-202](#) [MIL-PRF-83536/32](#) [SAE-AS31021](#) [SAE-AS31001](#)

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Custodians:

Army - AV
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

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Review activity:
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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 the ASSIST Online database at <https://assist.dla.mil/>.