

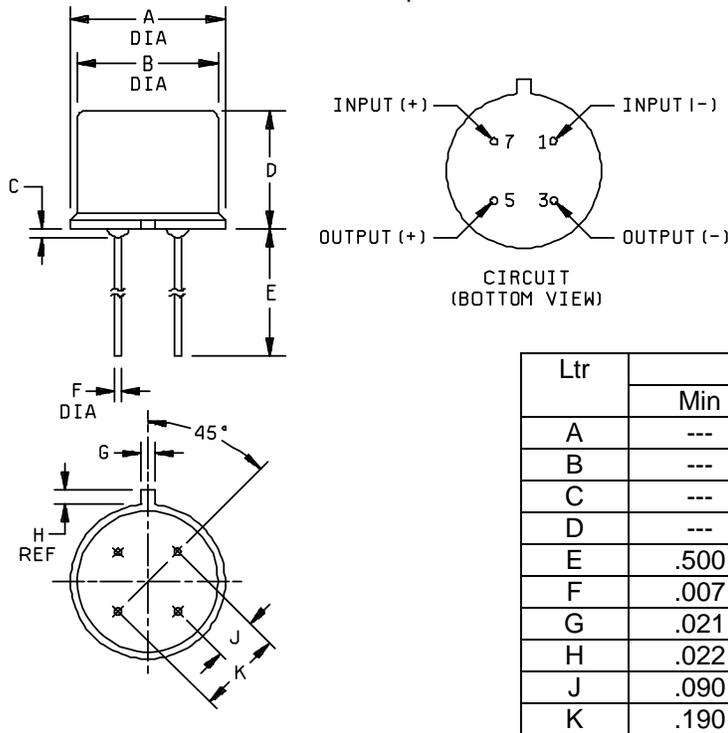
MILITARY SPECIFICATION SHEET

RELAY, SOLID STATE, HERMETICALLY SEALED, ISOLATED,
 100 MA, 250 V DC, SIGNAL SWITCHING, SPST (N. O.)

This specification is approved for use by all Departments
 and Agencies of the Department of Defense.

MIL-R-28750/7 is inactive for new design and is no
 longer used, except for replacement purposes.

The requirements for acquiring the products described herein
 shall consist of this specification sheet and [MIL-PRF-28750](#).



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 shown above are for reference only.

FIGURE 1. Outline drawing and dimensions.

REQUIREMENTS:

INPUT DATA:

Input voltage range: 4.0 to 7 V dc. [1/](#)

Rated turn-on voltage: 5.0 V dc. [1/](#)

Rated turn-off voltage: 1.0 V dc maximum. [1/](#)

Input current: 22 mA dc maximum at rated voltage.

Turn-on time: 10 microseconds maximum at rated voltage.

Turn-off time: 75 microseconds maximum from rated voltage.

Bias voltage: Not applicable.

OUTPUT DATA:

Rated output current: See [figure 2](#).

Rated output voltage: 250 V dc.

Output voltage drop: .5 V dc maximum at rated voltage.

Output leakage current: 200 microamperes maximum at rated voltage.

Crosstalk: Not applicable.

Transient voltage: Not applicable.

Electric system spike: Not applicable.

Overload: 1.5 x rating for 5 ms, 1 percent duty cycle.

DC offset voltage: Not applicable.

Waveform distortion: Not applicable.

ELECTRICAL DATA:

Dielectric withstanding voltage: 1,000 V ac (P-P), 60 Hz.

Insulation resistance: 100 megohms.

Isolation: 10 picofarads tested at 1 kHz.

[1/](#) Input must be a step function. Rise or fall time, as applicable, not to exceed 100 microseconds.
Power dissipation: 160 milliwatts maximum at rated voltage.

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Reverse polarity (dc operated relays): Not applicable.

ENVIRONMENTAL DATA:

Temperature (operating and storage): -55°C to +125°C.

Shock (specified pulse): [MIL-STD-202](#), method 213, test condition F (1,500 G's).

Vibration: [MIL-STD-202](#), method 204, test condition H, except peak value shall be 100 G's (10 to 2,000 Hz).

Electromagnetic interference: Not applicable.

Resistance to soldering heat: Applicable.

Salt spray (corrosion): In accordance with [MIL-STD-750](#), method 1041.

Moisture resistance: Not applicable.

PHYSICAL DATA:

Terminal strength ([MIL-STD-202](#), method 211):

Pull test: Test condition A, 1 pound pull.

Bend test: Test condition C, 1/2 pound load.

Twist test: Test condition D.

Terminal solderability: Applicable.

Dimensions and configuration: See [figure 1](#).

Weight: 5 grams (.18 ounce) typical.

Seal: Hermetic.

Terminal finish: Gold plated.

LIFE TEST REQUIREMENTS:

Life test: Group B and group C testing shall not be performed.

Minimum marking: Military PIN, functional diagram and terminal identification, date code, and manufacturer's name or source code.

Part or Identifying Number (PIN): M28750/7-001Y, M28750/7-001W and M28750/7-001X have been superseded by M28750/7-001Y.

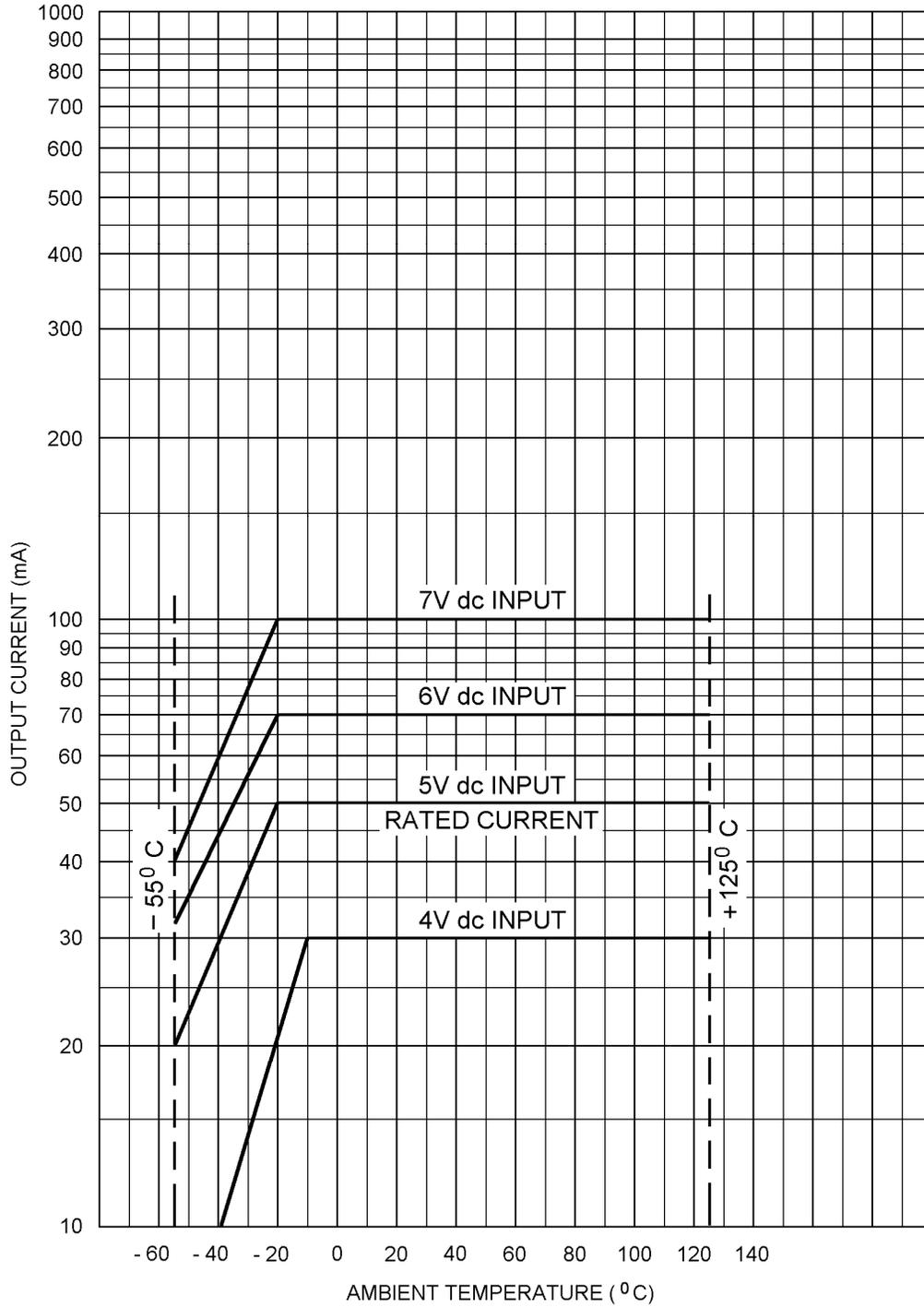


FIGURE 2. Output current versus input control voltage and ambient temperature.

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QUALIFICATION INSPECTION (reduced testing):

If the relays produced for MIL-R-28750/7 are similar in internal design, construction and material, except for the output, to the relays produced for [MIL-R-28750/6](#), then reduced testing for qualification of MIL-R-28750/7 may be performed concurrent with or subsequent to successful qualification of [MIL-R-28750/6](#). For reduced testing, see [table I](#).

TABLE I. Qualification inspection (reduced testing).

Inspection	Sample size
Electrical characteristics Life	6 units

Referenced documents. In addition to [MIL-PRF-28750](#), this document references the following:

[MIL-R-28750/6](#)

[MIL-STD-202](#)

[MIL-STD-750](#)

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.

Custodians:

Army-CR
Navy – EC
Air Force – 85
DLA - CC

Preparing activity:

DLA-CC

(Project 5945-2015-009)

Review activities:

Army - AR, AT, CR4, MI
Navy - AS, MC, OS, SH
Air Force - 19, 99
NASA - NA

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/>.