

INCH-POUND

MIL-R-28750/5E  
23 June 2003  
SUPERSEDING  
MIL-R-28750/5D  
12 April 1985

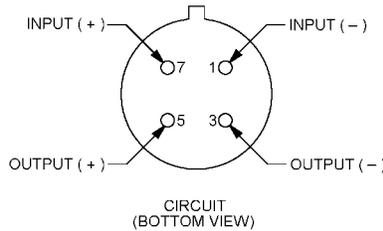
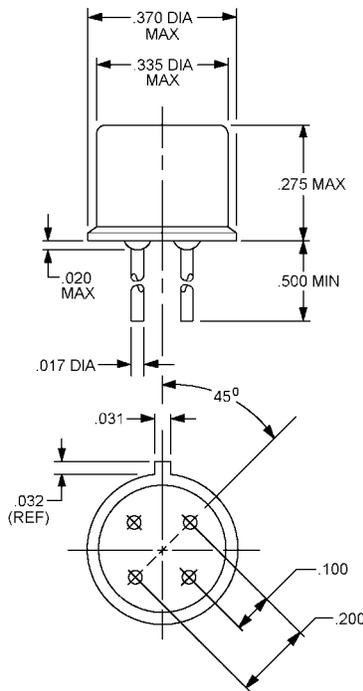
MILITARY SPECIFICATION SHEET

RELAY, SOLID STATE, HERMETICALLY SEALED, ISOLATED,  $\pm 50$  MA,  
 $\pm 40$  V, AC OR DC, ANALOG SIGNAL SWITCHING, SPST (N. O.)

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

The requirements for acquiring the products described herein  
shall consist of this specification and MIL-PRF-28750.

MIL-R-28750/5 is inactive for new design and is no  
longer used, except for replacement purposes.



Inches	mm
.017	0.43
.020	0.51
.031	0.79
.032	0.81
.100	2.54
.200	5.08
.275	6.99
.335	8.51
.370	9.40
.500	12.70

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.

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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: 15 microseconds maximum from rated voltage.

Bias voltage: Not applicable.

OUTPUT DATA:

Rated output current: See figure 2.

Rated output voltage:  $\pm 40$  V, ac or dc.

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

Output leakage current: 100 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:  $\pm 10$  millivolts.

Waveform distortion: Not applicable.

ELECTRICAL DATA:

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

Insulation resistance: 100 megohms.

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1/ Input must be a step function. Rise or fall time, as applicable, not to exceed 100 microseconds.

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Isolation: 10 picofarads tested at 1 kHz.

Power dissipation: 140 milliwatts maximum at rated voltage.

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): M28750/5-001Y. M28750/5-001W and M28750/5-001X have been superseded by M28750/5-001Y.

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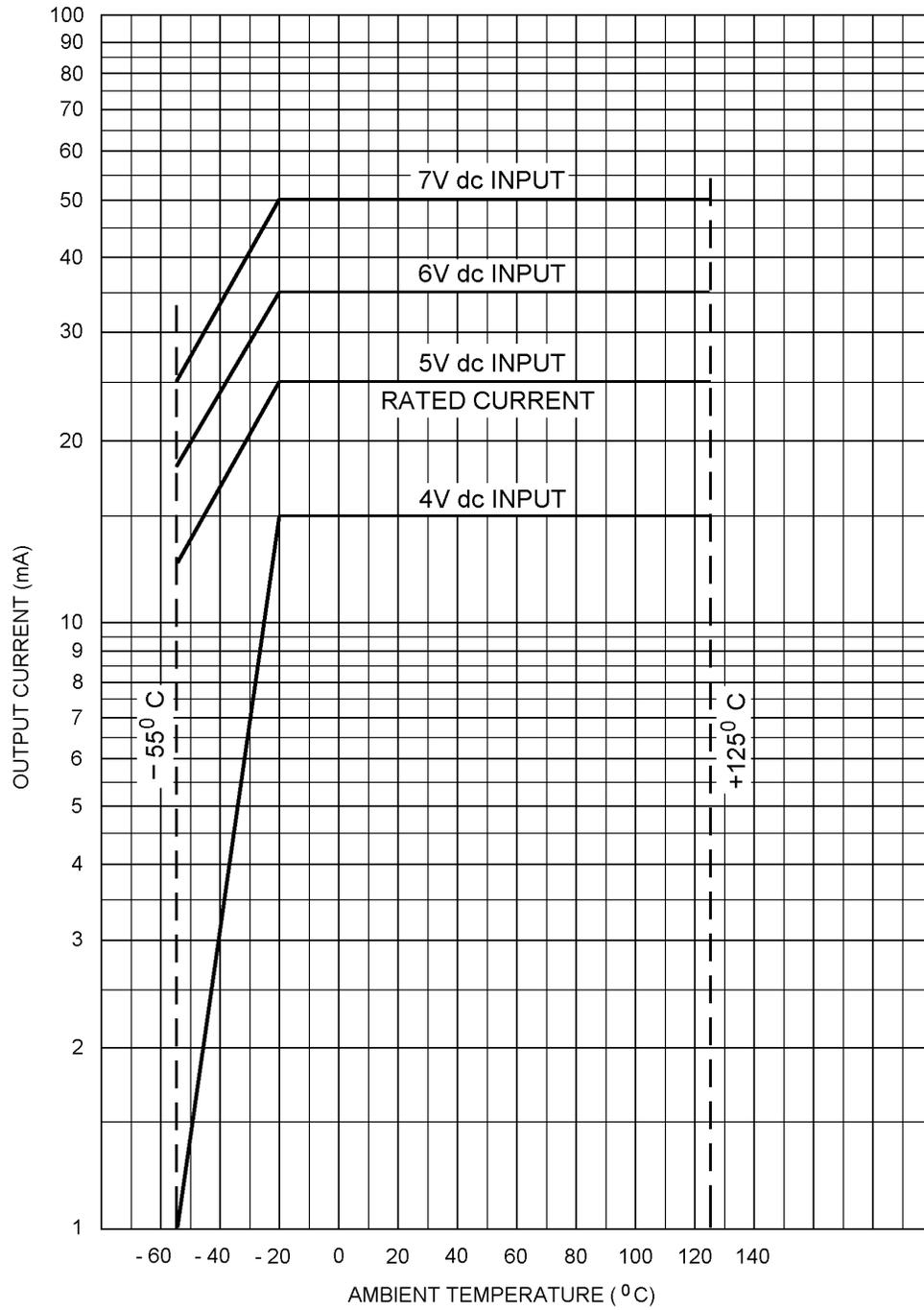


FIGURE 2. Output current versus input control voltage and ambient temperature.

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Custodians:

Army - CR  
Navy - EC  
Air Force - 11  
DLA - CC

Preparing activity:

DLA - CC

(Project 5945-1210-01)

Review activities:

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