INCH-POUND
MIL-PRF-28750/10C
1 February 1999
SUPERSEDING
MIL-R-28750/10B
14 November 1988

PERFORMANCE SPECIFICATION SHEET

RELAY, SOLID-STATE, SEALED, CLASS I, OPTICALLY ISOLATED, ZERO VOLTAGE TURN-ON, 25 AMPERES, 250 V MAXIMUM, 400 HZ, POWER 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 relay described herein shall consist of this specification and MIL-PRF-28750.

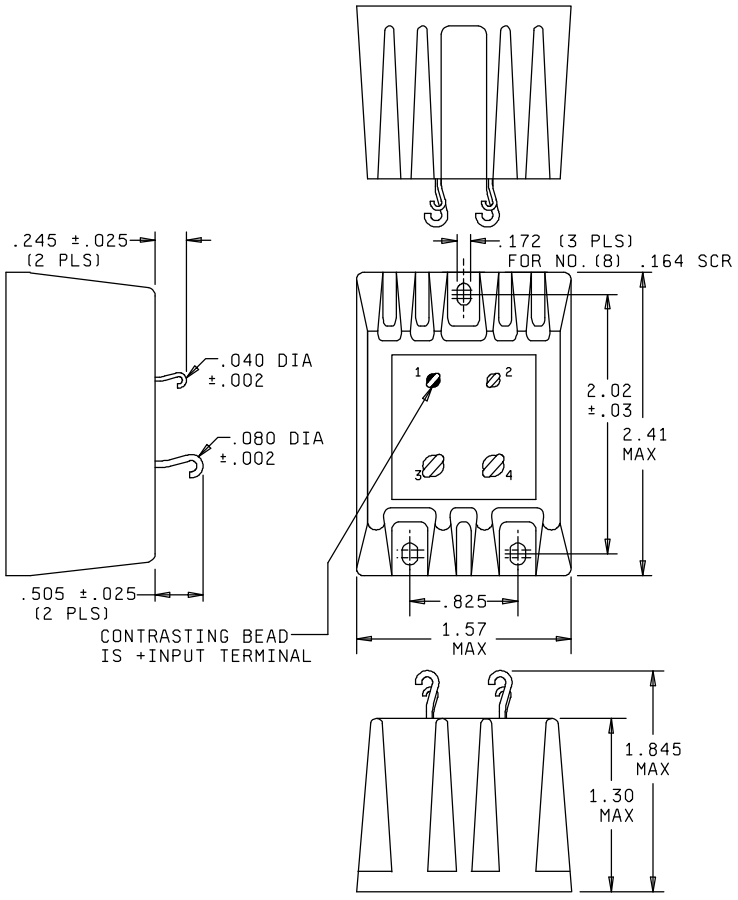
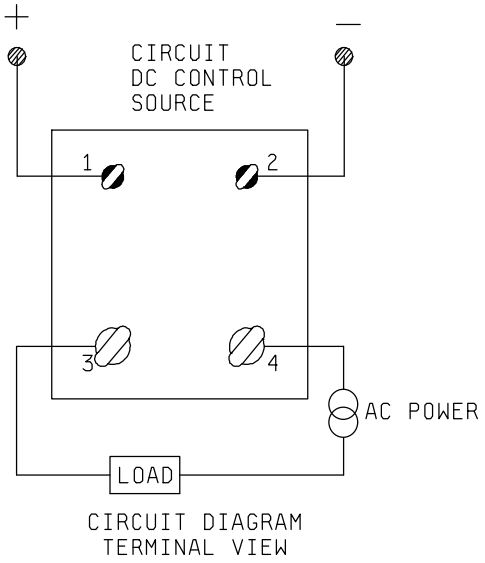


FIGURE 1. Outline drawing and dimensions.



CIRCUIT DIAGRAM
TERMINAL VIEW

Inches	mm
.002	.05
.025	.63
.040	1.02
.080	2.03
.172	4.37
.245	6.22
.505	12.83
.55	14.0
.825	20.96
1.30	33.0
1.57	39.9
1.845	46.86
1.99	50.5
2.05	52.1
2.41	61.2

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for general information only.
3. Unless otherwise specified, tolerance is ±.010 (.25mm)
4. Terminal numbers shown above are for reference only, and do not appear on the header.

FIGURE 1. Outline drawing and dimensions - Continued.

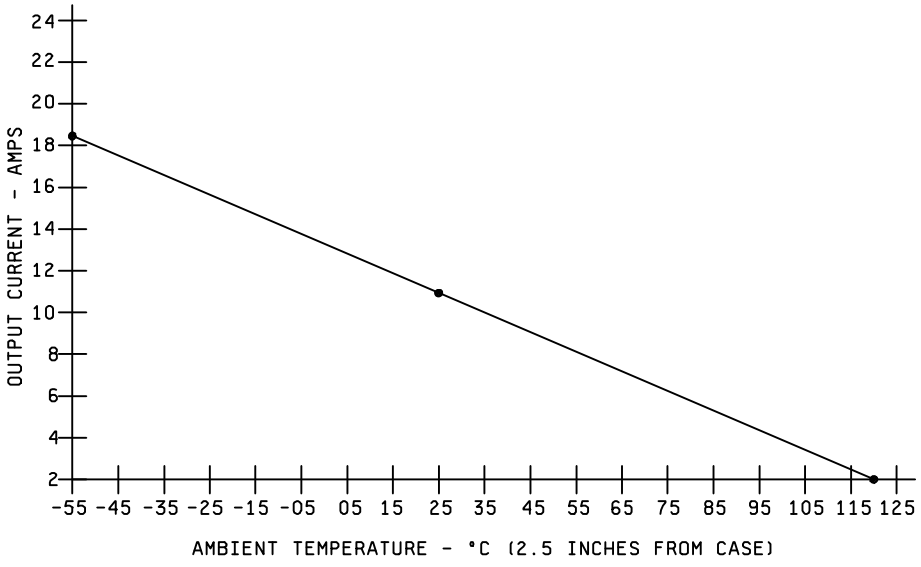


FIGURE 2. Output current verses ambient temperature.

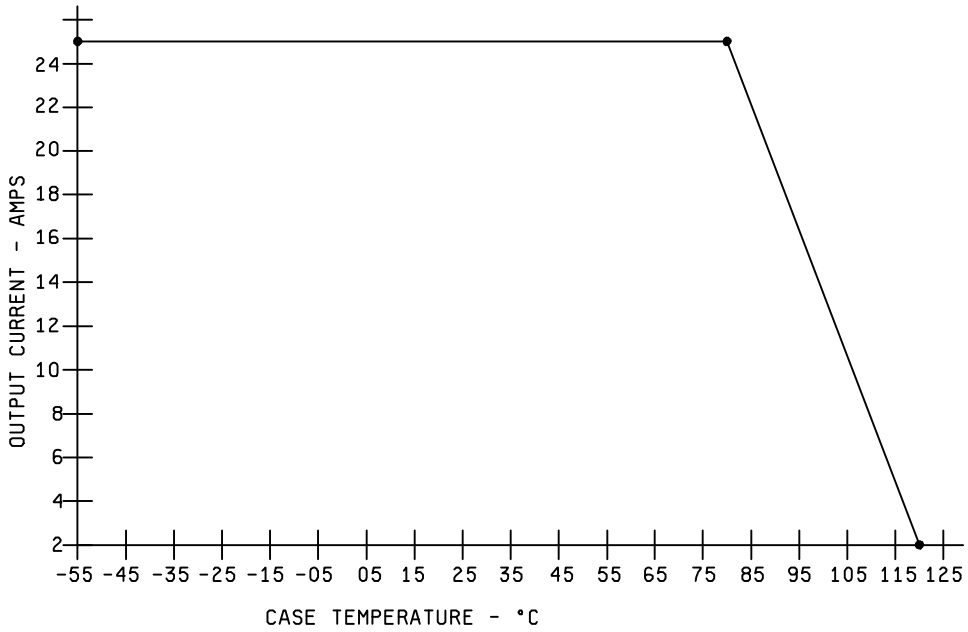


FIGURE 3. Output current versus case temperature.

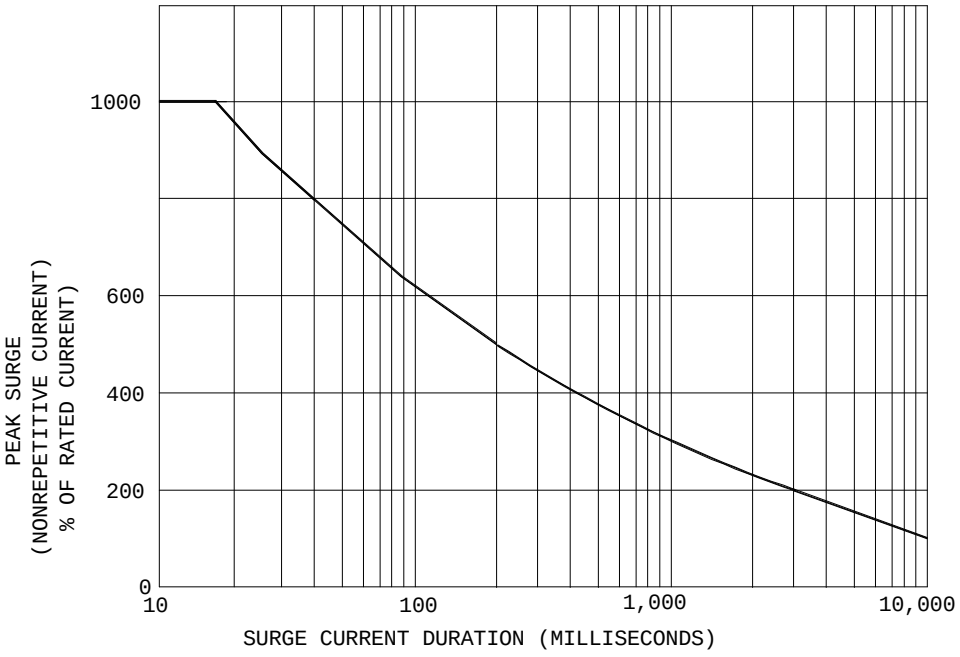


FIGURE 4. Peak surge current vs. surge current duration.

REQUIREMENTS:

SCREENING: Mechanical shock or constant acceleration shall be in accordance with MIL-PRF-28750, except the constant acceleration shall be performed at 100 g's.

MECHANICAL REQUIREMENTS:

Weight: 6 ounces maximum.

Seal: (Solder or weld) MIL-STD-202, method 112, test condition A, except temperature +125°C +0°C, -5°C.

Dimensions and configuration: See figure 1.

Terminals:

Terminal strength: 5 pounds pull.

Terminal solderability: Applicable.

Terminal finish: Corrosion resistant material. Corrosion resistant material such as gold plating are considered acceptable.

INPUT REQUIREMENTS:

Input voltage range: 4.0 V dc to 32.0 V dc.

Assured turn-on voltage: $\leq$ 4.0 V dc.

Assured turn-off voltage: $\geq$ 1.0 V dc.

Input current: 16 mA maximum at 32 V dc.

Turn-on time: $\frac{1}{2\ (\text{line frequency})}$ maximum.

Turn-off time: $\frac{1}{(\text{line frequency})}$ maximum.

Bias current: Not applicable.

OUTPUT REQUIREMENTS:

Output voltage range: 25 V ac to 250 V ac, 45 Hz to 440 Hz.

Rated output current: 25 A, ac maximum (see figure 2 and figure 3).

Rated output voltage: 220 V maximum, 400 Hz.

Output voltage drop: 1.5 V rms maximum.

Output leakage current: 10 mA, ac maximum at 220 V ac, 400 Hz.

Crosstalk: Not applicable.

Transient voltage: MIL-STD-704A, figure 3, curve 1, 180 volts, 5 seconds.

Electric system spike: Not applicable.

Overload: 80 amperes.

DC offset voltage: $\pm$150 mV maximum.

Waveform distortion: 4 V rms maximum from 10 percent to 100 percent rated output current.

Minimum current: Not applicable.

Zero crossover voltage (at +25°C):

M28750/10-001 = 0.0 ± 15 volts peak maximum.
M28750/10-002 = 0.0 ±40 volts peak maximum.

ELECTRICAL REQUIREMENTS:

Dielectric withstanding voltage: 1,500 V ac rms at 60 Hz.

Insulation resistance: 100 megohms minimum.

Isolation: 10 picofarads maximum.

Power dissipation: 38 watts maximum.

Exponential rate of voltage rise (dv/dt): Not applicable.

ENVIRONMENTAL REQUIREMENTS:

Temperature:

Operation: -55°C to +110°C.

Storage: -55°C to +125°C.

Shock (specified pulse): MIL-STD-202, method 213, test condition F (1500 g's).

Vibration: 30 g's, 10 Hz to 3,000 Hz.

Moisture resistance: Not applicable.

Resistance to soldering heat: MIL-STD-202, test method 2210, test condition A.

Salt atmosphere (corrosion): Shall be in accordance with MIL-PRF-28750, except examination after test shall be in accordance with method 1041 of MIL-STD-750.

Qualification: To qualify either M28750/10-001 or M28750/10-002 all qualification inspections of MIL-PRF-28750 shall be performed. In order to qualify M28750/10-001 and M28750/10-002 submit M28750/10-001 to qualification inspection of MIL-PRF-28750 as applicable and submit M28750/10-002 (2 units) to group A inspection of MIL-PRF-28750.

Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Custodians:
Navy - EC
Air Force - 85

Preparing activity:
DLA - CC

(Project 5945-0980-002)