

PERFORMANCE SPECIFICATION SHEET

RELAY, SOLID-STATE, HERMETICALLY SEALED, CLASS II, OPTICALLY ISOLATED,
ZERO VOLTAGE TURN-ON, 1 AMPERE (2 AMPERES WITH HEAT SINK),
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 sheet and [MIL-PRF-28750](#).

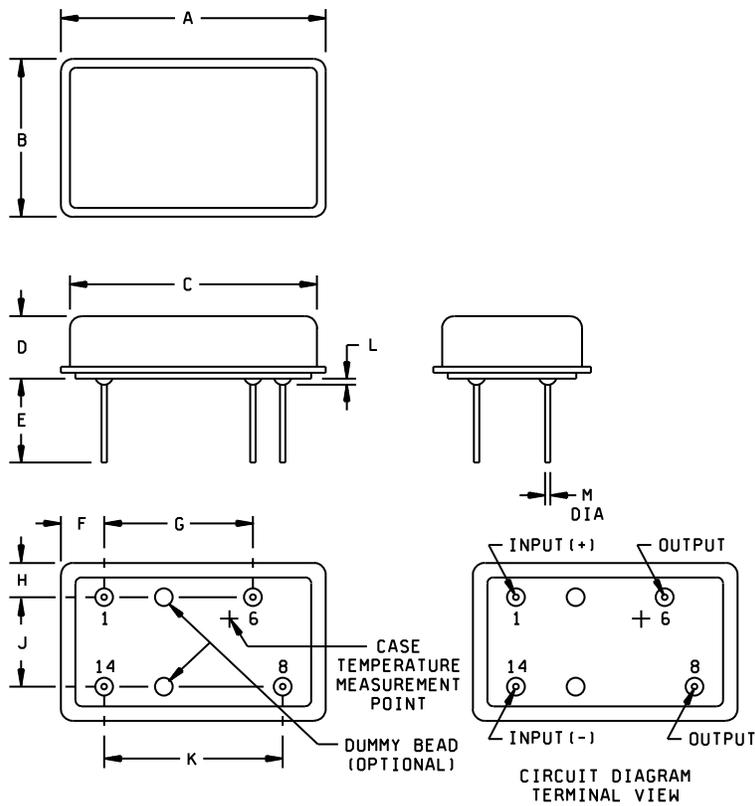


FIGURE 1. Outline drawing and dimensions.



Ltr	Inches		mm	
	Min	Max	Min	Max
A	---	.890	---	22.61
B	---	.530	---	13.46
C	.820	.840	20.83	21.34
D	---	.190	---	4.83
E	.250	.290	6.35	7.37
F	.125	.145	3.18	3.68
G	.490	.510	12.45	12.95
H	.095	.115	2.41	2.92
J	.290	.310	7.37	7.87
K	.590	.610	14.99	15.49
L	---	.020	---	0.51
M	.016	.020	0.41	0.51

NOTES:

1. Dimensions are in inches.
2. Metric equivalents given for general information only.
3. Unless otherwise specified, tolerance is ± 0.010 (0.25 mm).
4. Terminal numbers shown above are for reference only.

FIGURE 1. Outline drawing and dimensions - Continued.

MIL-PRF-28750/9G

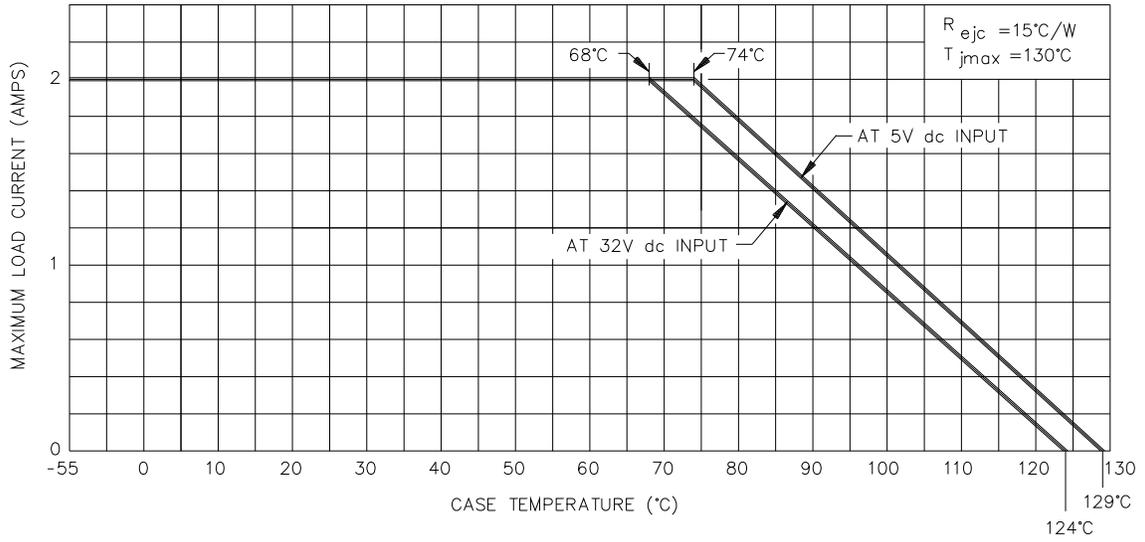


FIGURE 2. Maximum load current versus case temperature.

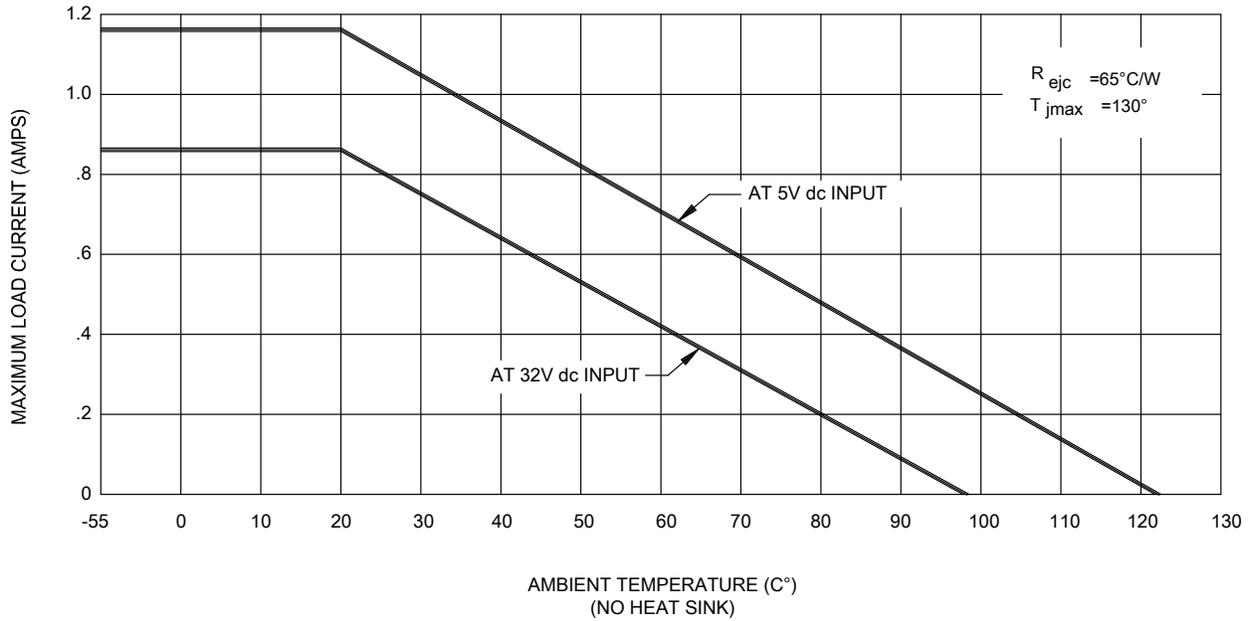


FIGURE 3. Maximum load current versus ambient temperature.

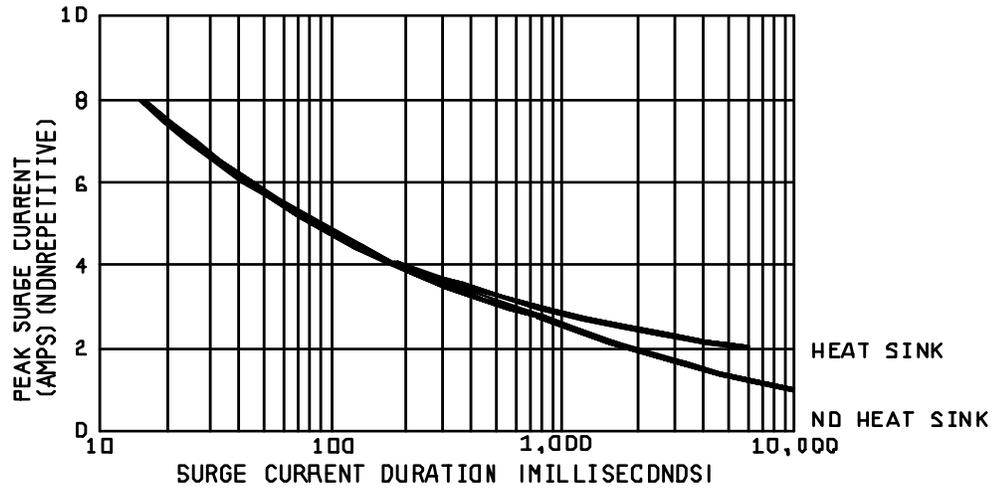


FIGURE 4. Peak surge current versus surge current duration.

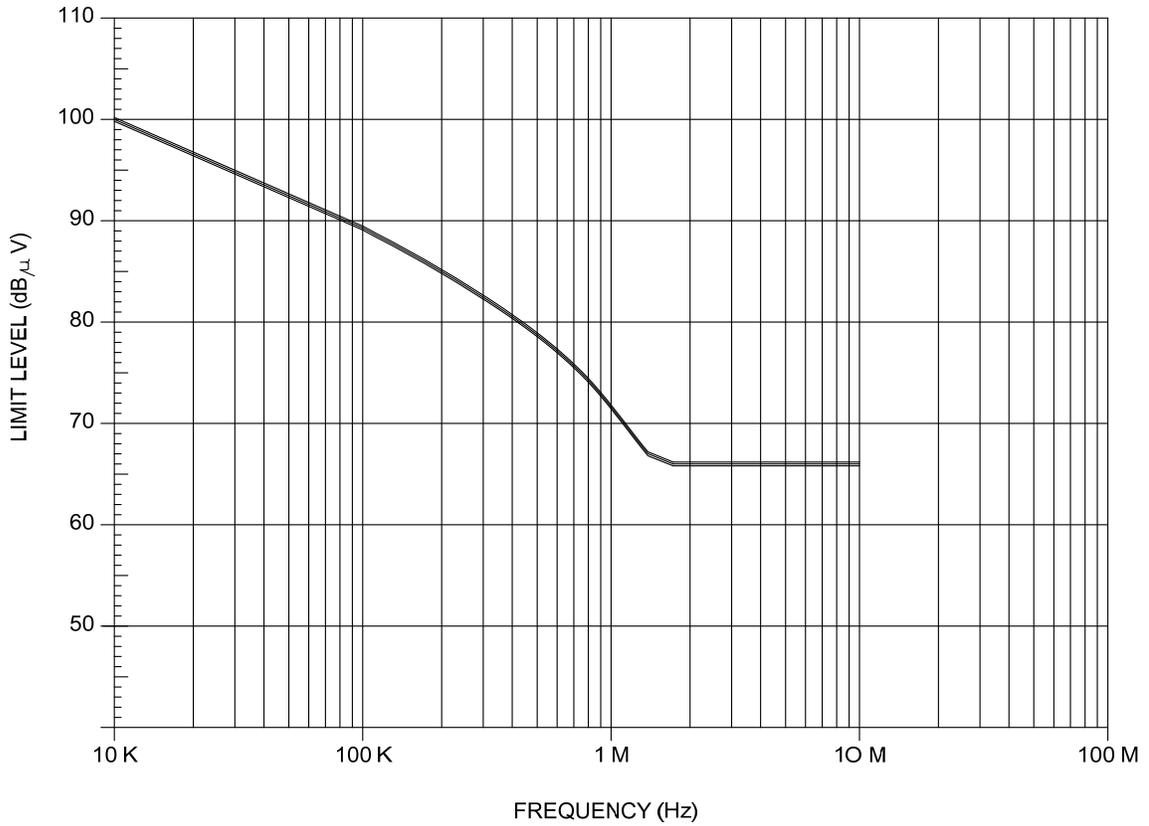


FIGURE 5. Conducted emissions.

REQUIREMENTS:

INPUT REQUIREMENTS:

Input voltage range: 3.8 V dc to 32 V dc.

Assured turn-on voltage: ≤ 3.8 V dc.

Assured turn-off voltage: ≥ 1.5 V dc.

Input current: 18 mA dc maximum.

Turn-on time: $\frac{1}{2}$ cycle ac Hz.

Turn-off time: 1 cycle ac Hz.

Bias voltage: Not applicable.

OUTPUT REQUIREMENTS:

Rated output current: See [figure 2](#) and [figure 3](#).

Rated output voltage: 250 V ac rms maximum, 400 Hz.

Output voltage drop: 1.5 V ac maximum.

Output leakage current: 3 mA rms maximum.

Crosstalk: Not applicable.

Transient voltage: Step line voltage from 230 V ac, 400 Hz to 360 V ac, 400 Hz. For 5 seconds maximum. (Relay can be externally protected to meet the requirements of [MIL-STD-704](#), category B).

Electrical system spike: Not applicable.

Overload: 1.5 times the rated current (no heat sink), 10 percent duty cycle (see [figure 4](#)).

DC offset voltage: ± 100 millivolts maximum.

Waveform distortion: 4 V rms maximum, initial turn-on: ± 10 V peak maximum.

Minimum current: Applicable (load current shall be varied between 10 percent and 100 percent of rated load).

ELECTRICAL REQUIREMENTS:

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

Insulation resistance: 100 megohms minimum.

Isolation: 10 picofarads maximum.

Power dissipation: 2.00 watts maximum (no heat sink).

Exponential rate of voltage rise (dv/dt): 100 V/ μ s.

ENVIRONMENTAL REQUIREMENTS:

Temperature:

Operating: -55°C to $+110^{\circ}\text{C}$.

Storage: -55°C to $+125^{\circ}\text{C}$.

Thermal shock: Applicable.

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

Vibration: 20 g's, 10 Hz to 2,000 Hz.

Moisture resistance: Not applicable.

Electromagnetic interference: Maximum broadband conducted emission on power lines with 115 V ac, 400 Hz, 1.0 ampere resistive load during steady state and switching conditions (see [figure 5](#)).

Resistance to soldering heat: Applicable.

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

PHYSICAL REQUIREMENTS:

Weight: 6 grams maximum.

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

Terminal strength: 1 pound pull minimum.

Terminal solderability: Applicable.

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

Seal: Hermetic (solder or weld).

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

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

[MIL-STD-202](#)

[MIL-STD-704](#)

[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 previous issue.

Custodians:

Navy - EC
Air Force - 85
DLA - CC

Preparing activity:
DLA - CC

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