

Resitron Laboratories, Inc.
2908 Nebraska Ave.
Santa Monica, Calif.

TECHNICAL DATA

on

RESITRON HIGH VOLTAGE, HIGH VACUUM RELAY

TYPE 6793

DESCRIPTION:

The Resitron 6793 high voltage, high vacuum relay is a single pole, double throw (normally closed) device ideally suited for switching purposes where high peak voltage and currents are employed. The glass envelope of this relay bears a circular metal flange which permits the assembly to be soft soldered directly into a pulse forming network or transformer housing. In this manner, the lower portion of the relay is immersed into the insulating fluid of the housing, close to the electrical components to be switched. The upper portion of the relay is surrounded by a D. C. activating coil, and is exposed to the atmosphere. Under these conditions, the relay is capable of standing off the maximum voltage as indicated in the data. Because the glass envelope of the relay is highly evacuated, it is unaffected by ambient atmospheric conditions.

The following list enumerates a few of the uses for this type of device:

1. Switching pulse forming networks.
2. Antenna change over relay.
3. Switching in explosive atmospheres.
4. Isolation of high voltage for safety of personnel, as in cathode-ray tube test sets, x-ray machines, high voltage radar gear, and power supplies.
5. Switching condensers from series to parallel for many applications.
6. Discharging condensers at high voltage for safety purposes.

ELECTRICAL CHARACTERISTICS:

- 1.0 Contact Arrangement: Single pole, double throw, normally closed.
- 1.1 Contact Resistance: .010 ohm, maximum.
- 1.2 Switch at maximum voltage done under no-load conditions.
- 1.3 Breakdown voltage between open contacts: 25.0 Kilovolts, peak, AC or DC.
- 1.4 Typical pulse operation: Pulse duration, 2.5 microseconds.
Pulse Repetition Rate: 420 pulses per second.
Peak Pulse Current: 400 amperes.

- 1.5 Typical Conditions for Switching with Power Through Contacts:
25.0 Kv. D.C. at .100 ampere, maximum.
5.0 Kv. D.C. at 1.5 amperes, maximum.
- 1.6 Typical Operation with Lower Portion of Relay Operated in Air:
5.0 Kv. D.C. between open contacts. Currents through contacts remain the same as when relay is operated at maximum voltage, however.
- 1.7 Maximum pull-in time: 15 milliseconds.
Maximum drop-out time: 15 milliseconds.

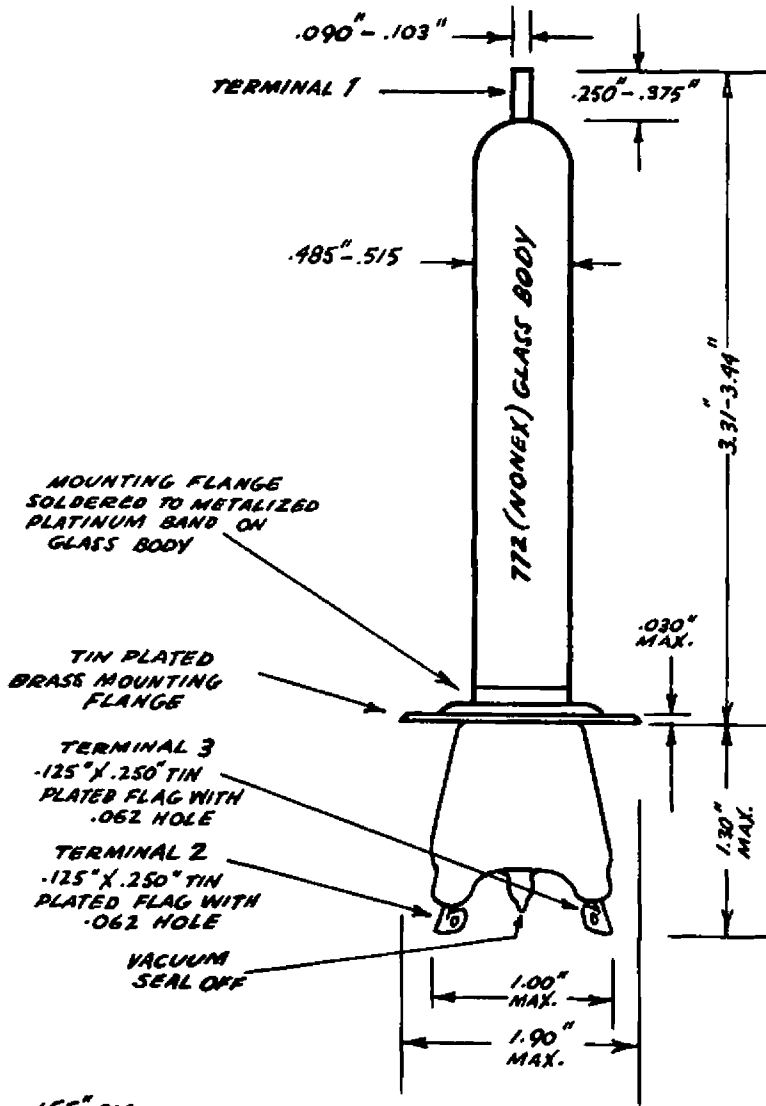
MECHANICAL CHARACTERISTICS:

- 1.8 Weight of flanged relay alone: one ounce, maximum.
- 1.9 Weight of RL200B coil alone: 7.5 ounces, maximum.
- 2.0 Shock Test: The RL6793 relay is capable of withstanding 30 shocks of 25 G's; 10 shocks in each of the three (3) mutually perpendicular planes (five in each direction) when properly secured in the equipment which is adequately shock mounted.
- 2.1 Vibration: .060", maximum total excursion; frequency 10 to 55 cps, and return for a period of 2 hours, in each major plane when rigidly installed in shock mounted equipment.
- 2.2 Terminals: Terminal No. 1 shall be electro-polished for good electrical contact. Terminals No. 2 and 3 are spot-welded to the assembly and tinned for ease of soldering the relay into its circuit.
- 2.3 Outline drawing of 6793 relay.)
- 2.4 Outline drawing of RL200B coil.) See page three.
- 2.5 Elementary diagram of relay and coil.)

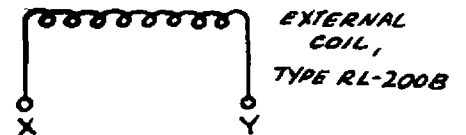
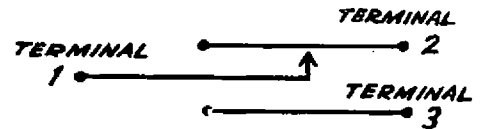
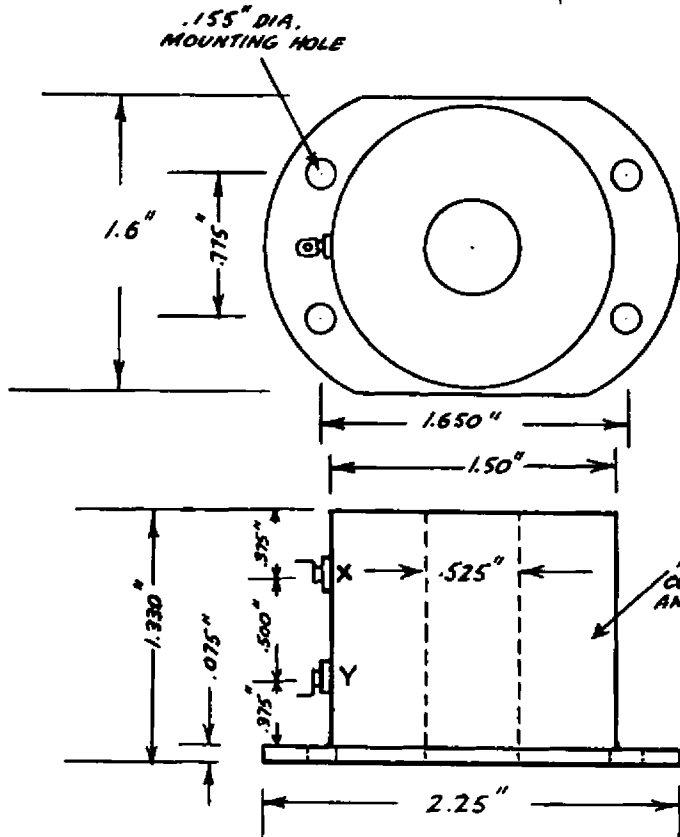
ELECTRICAL CHARACTERISTICS OF METAL CLAD RL200B COIL;

- 2.6 Rated coil voltage 28.0 volts, D.C.
- 2.7 Coil Resistance: 43 ohms \pm 5% at 25° C.
- 2.8 Maximum pull-in voltage: 18 volts D.C. at 25° C.
- 2.9 Maximum drop-out voltage 13 volts D.C. at 25° C.
- 3.0 Temperature: 70° C. to +125° C. in an ambient temperature of 100° C.
- 3.1 Salt Spray: 100 hours per government specification QQ-M-151.
- 3.2 Humidity: 95% condensation.

Coils to meet your specific applications are available upon request.



OUTLINE DRAWING
OF RELAY 6793



BASIC CIRCUIT DIAGRAM
OF RELAY AND COIL

OUTLINE DRAWING
OF RL-200B COIL

NOTE: TERMINALS X-Y CERAMIC INSULATED
FROM CASE