

GL-6860

THYRATRON

TRIODE TYPE

INERT-GAS TYPE

NEGATIVE CONTROL CHARACTERISTICS

DESCRIPTION AND RATING

The GL-6860 is a three-electrode inert-gas filled thyatron with a negative control characteristic for use in grid-control rectifier applications. The GL-6860 combines the desirable temperature characteristic of gas tubes, maximum ratings over a wide temperature range, with the long life of mercury tubes. A useful feature in industrial applications is the filamentary-type cathode which requires only one minute to reach operating temperature.

This tube is equipped with a bracket-type base for panel mounting.

TECHNICAL INFORMATION

GENERAL

Electrical

Cathode - Filamentary

|                                         |            |         |
|-----------------------------------------|------------|---------|
| Filament Voltage. . . . .               | 2.5        | Volts   |
| Filament Current at 2.5 Volts . . . . . | 21 $\pm$ 2 | Amperes |
| Heating Time. . . . .                   | 60         | Seconds |

|                                             |   |     |
|---------------------------------------------|---|-----|
| Anode to Control-Grid Capacitance . . . . . | 4 | uuf |
|---------------------------------------------|---|-----|

|                                         |      |              |
|-----------------------------------------|------|--------------|
| Deionization Time, approximate. . . . . | 1000 | Microseconds |
|-----------------------------------------|------|--------------|

|                                       |    |              |
|---------------------------------------|----|--------------|
| Ionization Time, approximate. . . . . | 10 | Microseconds |
|---------------------------------------|----|--------------|

|                             |    |       |
|-----------------------------|----|-------|
| Anode Voltage Drop. . . . . | 12 | Volts |
|-----------------------------|----|-------|

|                                 |    |              |
|---------------------------------|----|--------------|
| Critical Grid Current . . . . . | 10 | Microamperes |
|---------------------------------|----|--------------|

Control Characteristics

|               |      |      |      |           |       |
|---------------|------|------|------|-----------|-------|
| Anode Voltage | 100  | 500  | 1250 | . . . . . | Volts |
| Grid Voltage  | -0.5 | -2.4 | -5.8 | . . . . . | Volts |

Mechanical

Mounting Position - Vertical, Base Down

|                               |   |        |
|-------------------------------|---|--------|
| Net Weight, maximum . . . . . | 8 | Ounces |
|-------------------------------|---|--------|

MAXIMUM RATINGS, Absolute Values

|                                       |            |         |
|---------------------------------------|------------|---------|
| Maximum Peak Anode Voltage            |            |         |
| Inverse . . . . .                     | 1250       | Volts   |
| Forward . . . . .                     | 1000       | Volts   |
| Maximum Cathode Current               |            |         |
| Peak. . . . .                         | 77         | Amperes |
| Average . . . . .                     | 6.4        | Amperes |
| Maximum Averaging Time. . . . .       | 6          | Seconds |
| Fault . . . . .                       | 770        | Amperes |
| Maximum Duration. . . . .             | 0.1        | Seconds |
| Maximum Negative Control-Grid Voltage |            |         |
| Before Conduction . . . . .           | 100        | Volts   |
| During Conduction . . . . .           | 10         | Volts   |
| Commutation Factor* . . . . .         | 0.66       |         |
| Ambient Temperature Limits. . . . .   | -55 to +75 | C       |

\* Commutation factor is the product of the rate of current decay in amperes-per-microsecond just prior to commutation and the rate of inverse voltage rise in volts-per-microsecond just after commutation.

# OUTLINE-GL-6860

