

Tetrode inert gas-filled thyatron with negative control characteristic. Primarily designed for industrial control applications.

This data should be read in conjunction with DEFINITIONS AND GENERAL OPERATIONAL RECOMMENDATIONS—THYRATRONs, preceding this section of the handbook.

LIMITING VALUES (absolute ratings, not design centre)

It is important that these limits are never exceeded and such variations as mains fluctuations, component tolerances and switching surges must be taken into consideration in arriving at actual valve operating conditions.

| | | |
|---|------------|------------|
| Max. peak anode voltage | | |
| Inverse | 1.3 | kV |
| Forward | 650 | V |
| Max. cathode current | | |
| Peak | 2.0 | A |
| Average (max. averaging time 15s) | 300 | mA |
| Surge (fault protection max. duration 0.1s) | 10 | A |
| Max. negative control-grid voltage | | |
| Before conduction | 250 | V |
| During conduction | 10 | V |
| Max. average positive control-grid current for anode voltage more positive than -10V (averaging time 1 cycle) | 20 | mA |
| Max. control-grid resistance | | |
| $I_a < 200\text{mA}$ | 10 | M Ω |
| $I_a > 200\text{mA}$ | 2.0 | M Ω |
| Max. negative shield-grid voltage | | |
| Before conduction | 100 | V |
| During conduction | 10 | V |
| Max. average positive shield-grid current for anode voltage more positive than -10V (averaging time 1 cycle) | 20 | mA |
| Max. screen-grid resistor | 1.0 | M Ω |
| Max. peak heater-cathode voltage | | |
| Cathode negative | 25 | V |
| Cathode positive | 100 | V |
| Min. valve heating time (for $i_{k(pk)}$ max = 2.0A) | 20 | s |
| Ambient temperature limits | -75 to +90 | °C |

Note—Where circuit conditions permit, the shield-grid should be connected directly to the cathode.



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CHARACTERISTICS

Electrical

| | | |
|---|------|---------|
| Heater voltage | 6.3 | V |
| Heater current at 6.3V | 950 | mA |
| Capacitances | | |
| Anode to grid | 0.25 | pF |
| Anode to cathode | 0.06 | pF |
| Grid to cathode | 0.2 | pF |
| Anode to shield-grid | 3.0 | pF |
| Control ratio | | |
| g_2 to k and $R_{g1}=0\Omega$ | 275 | |
| g_1 to k and $R_{g2}=0\Omega$ | 370 | |
| Anode voltage drop | 10 | V |
| Recovery (deionisation) time | | |
| $V_a=650V, I_{a(pk)}=2A, R_{g1}=100k\Omega$ | | |
| $V_{g1}=-100V$ | 240 | μs |
| $V_{g1}=-50V$ | 1.0 | ms |

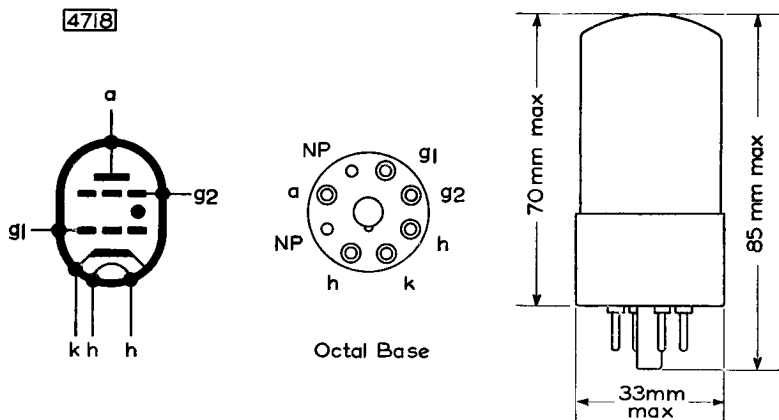
Mechanical

| | |
|-------------------|------------|
| Type of cooling | Convection |
| Mounting position | Any |

CONTROL CHARACTERISTIC (See page 5).

The curves given indicate the spread in characteristics due to:

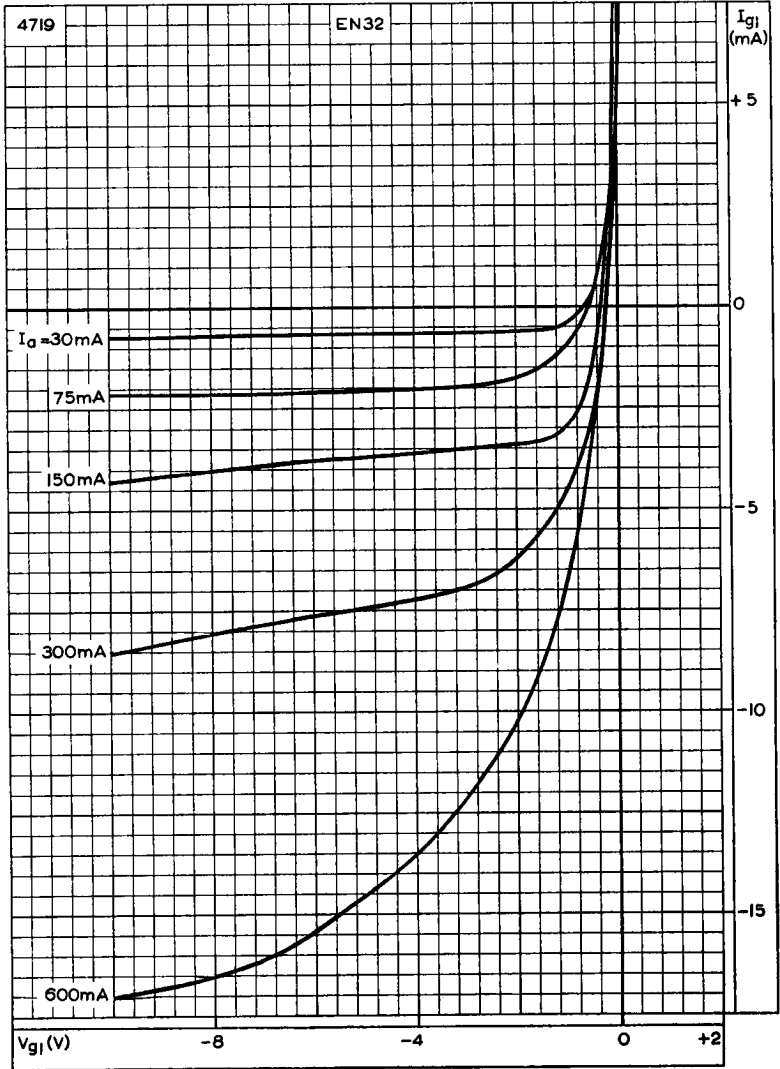
- Variations in characteristics due to changes in heater voltage.
- Variations in characteristics during life.
- Variation in grid resistor.



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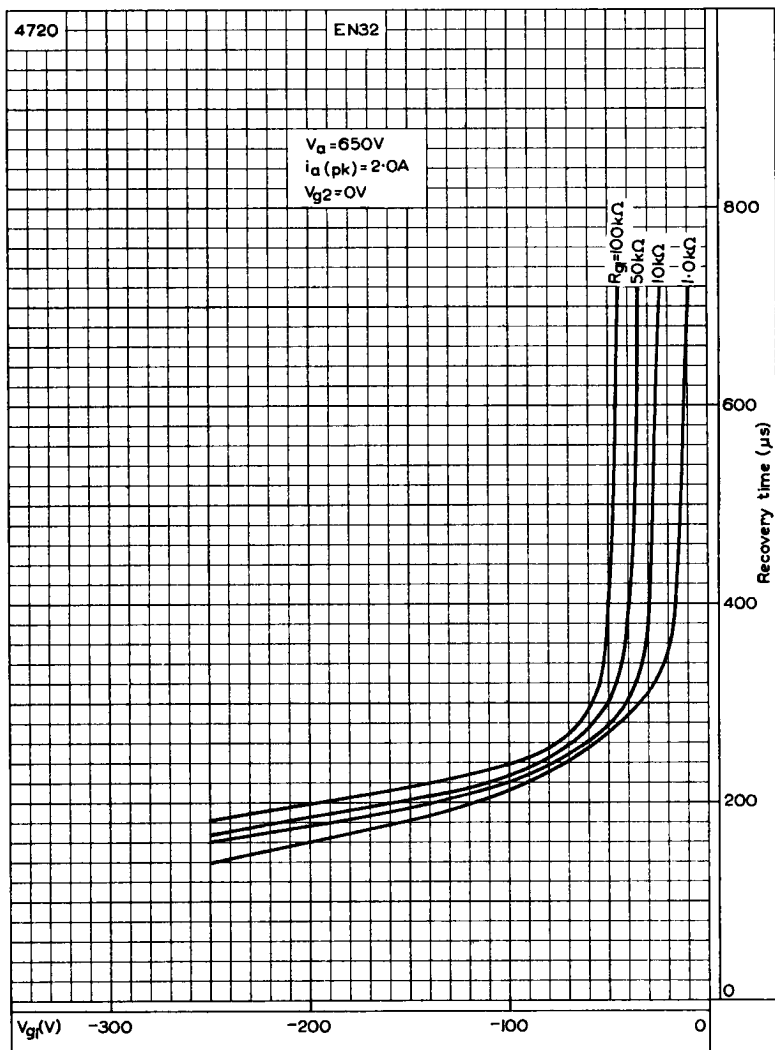


GRID ION CURRENT CHARACTERISTICS

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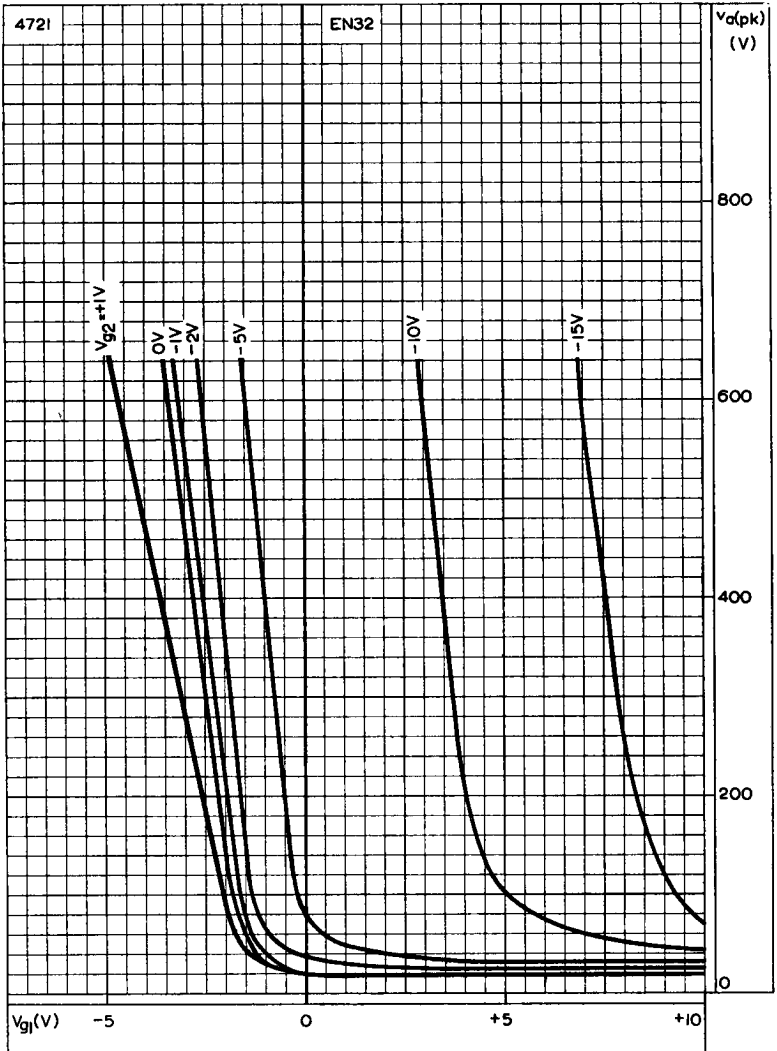


RECOVERY TIME PLOTTED AGAINST CONTROL-GRID VOLTAGE

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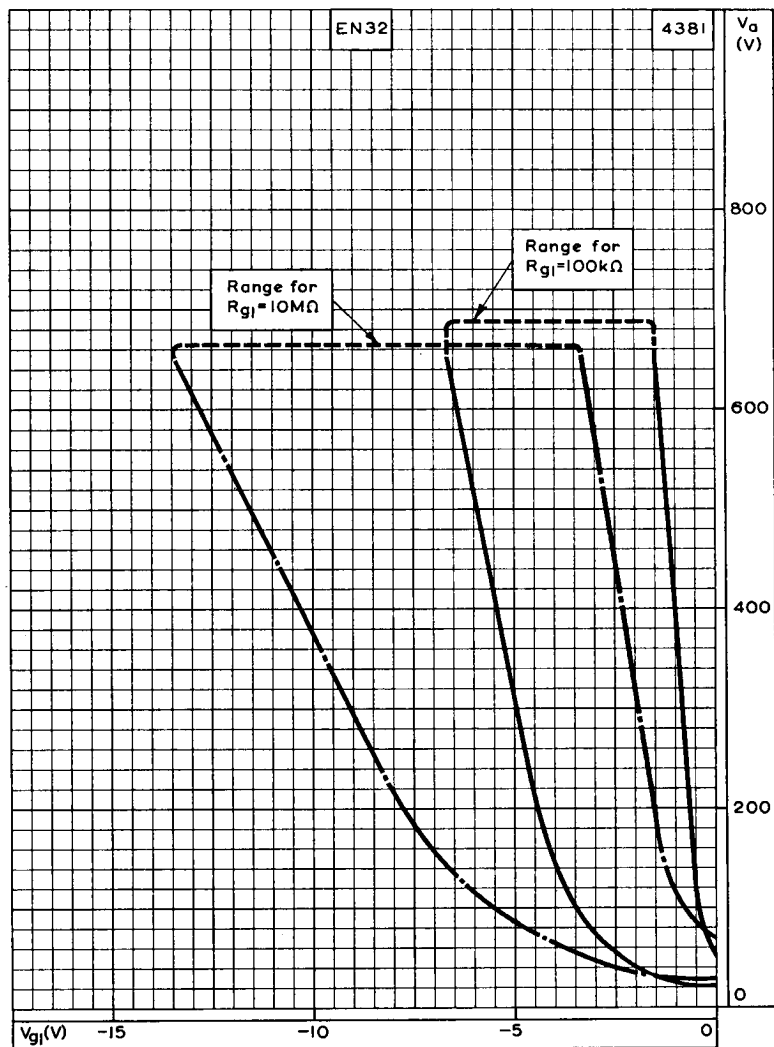
CONTROL CHARACTERISTIC (see page 2)



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OPERATING RANGE OF CRITICAL GRID VOLTAGE