

## TRIODE THYRATRON

# XRI-1600

1.6 amp triode, inert gas-filled thyatron with negative control characteristic. Primarily designed for industrial control applications.

### PRELIMINARY DATA

This data sheet should be read in conjunction with DEFINITIONS AND GENERAL OPERATIONAL RECOMMENDATIONS - THYRATRONs, which precede 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.

#### Maximum peak anode voltage

Inverse	1.5	kV
Forward	1.5	kV

#### Maximum cathode current

##### Normal service

Peak (25c/s and above)	20	A
Average (max. averaging time 15s)	1.6	A

##### Ignitor firing service (Filament voltage = 2.75V)

Peak	30	A
Average	0.5	A

#### Maximum negative grid voltage

Before conduction	250	V
During conduction	10	V

#### Maximum positive grid current during the time that the anode voltage is more positive than -10V

Peak	1.25	A
Average (averaging time 1 cycle)	100	mA

#### Maximum peak positive grid current during the time that the anode voltage is more negative than -10V

5.0 mA

#### Maximum grid resistor

100 k $\Omega$

#### Minimum valve heating time

10 s

#### Maximum commutation factor

10

#### Maximum ambient temperature

+70 °C

# XRI-1600

## TRIODE THYRATRON

### CHARACTERISTICS

#### Electrical

*Filament voltage	2.5	V
*Filament current at 2.5V		
Maximum	9.5	A
Average	8.5	A
Anode to grid capacitance	350	mpF
Grid to cathode capacitance	10	pF
Recovery (deionisation) time (approx.)		
$V_g = -250V$	200	$\mu s$
$V_g = -100V$	300	$\mu s$
Ionisation time (approx.)	10	$\mu s$
Anode voltage drop (approx.)	10	V
Critical grid current at $V_a = 1.5kV$	<20	$\mu A$

\*These ratings apply for normal service.

For ignitor firing service, the following ratings apply:

Filament voltage	2.75	V
Filament current at 2.75V		
Maximum	10.3	A
Average	9.2	A

When two or more valves are used with one filament transformer, the centre tap of the filament transformer must be used for the circuit returns. This may also be connected to the filament centre-taps.

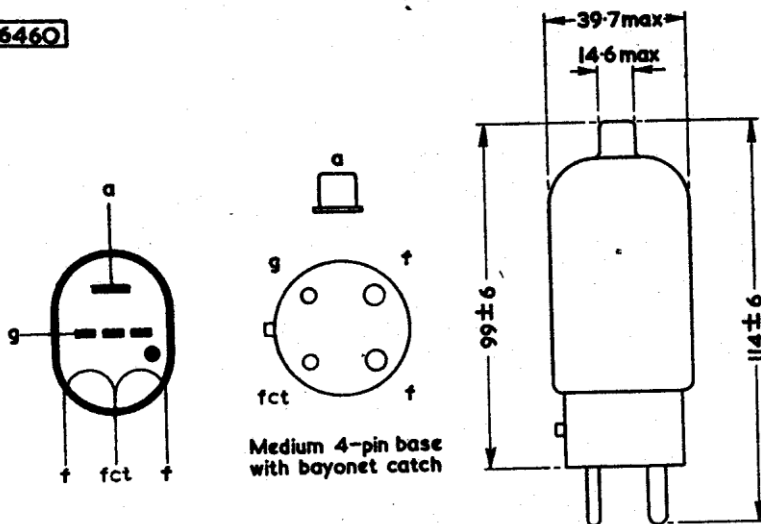
#### Mechanical

Type of cooling	Convection
Recommended mounting position	Any between horizontal and vertical with base down.
Maximum net weight	{ 96 g 3.4 oz

TRIODE THYRATRON

# XRI-1600

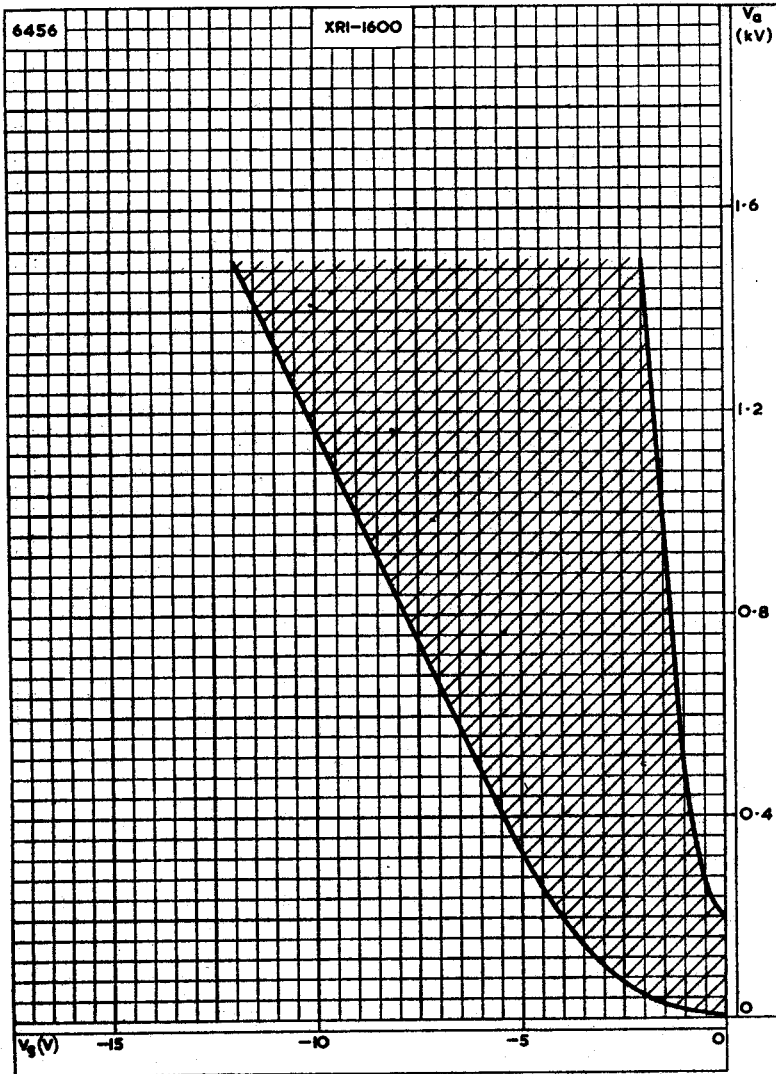
6460



All dimensions in mm

TRIODE THYRATRON

# XRI-1600

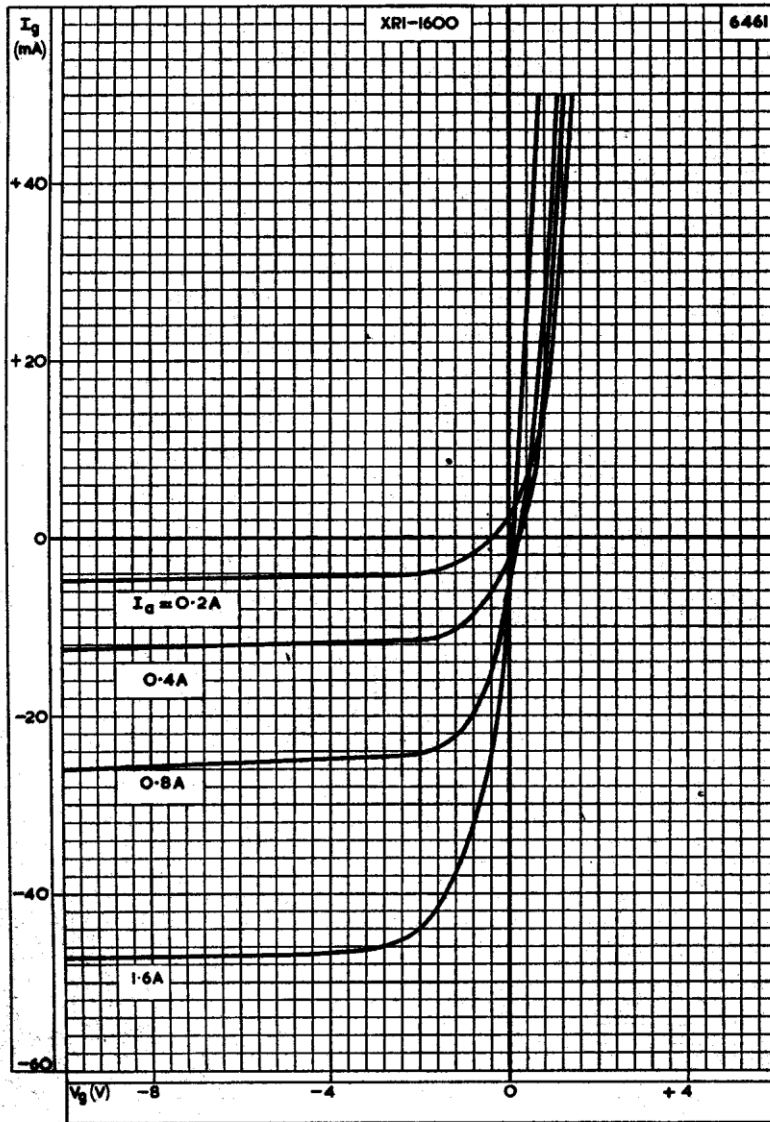


CONTROL CHARACTERISTIC



# XRI-1600

## TRIODE THYRATRON



GRID ION CURRENT CHARACTERISTIC