

TRIODE THYRATRON

XRI-1600A

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 (averaged over 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 Ω
Minimum valve heating time	10	s
Maximum commutation factor	10	
Maximum ambient temperature	+70	$^{\circ}$ C

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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	μs
$V_g = -100V$	300	μs
Ionisation time (approx.)	10	μs
Anode voltage drop (approx.)	10	V
Critical grid current at $V_a = 1.5kV$	<20	μA

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

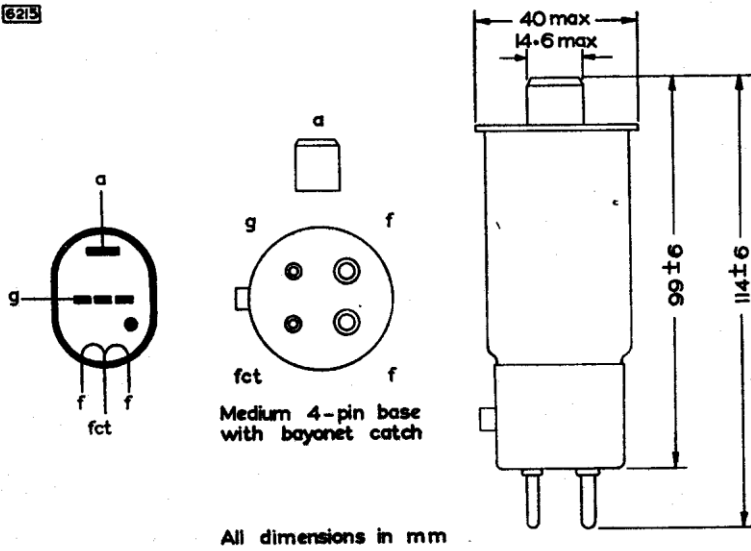
Type of cooling	Convection
Recommended mounting position	Any between horizontal and vertical with base down
Maximum net weight	{ 115 g 4.1 oz
Weight of valve in carton	{ 275 g 9.7 oz
Dimensions of packing	{ 3.5 x 3.5 x 8.5 in 89 x 89 x 215 mm

The anode structure must be left free to ensure adequate cooling by free conduction.

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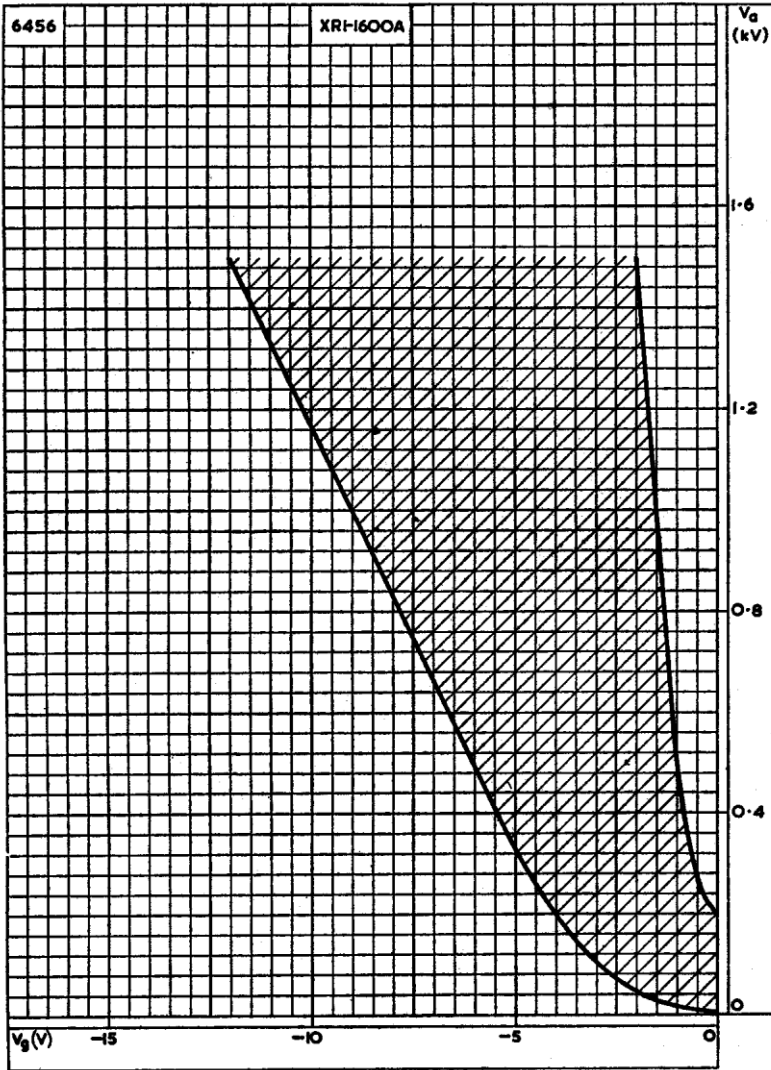
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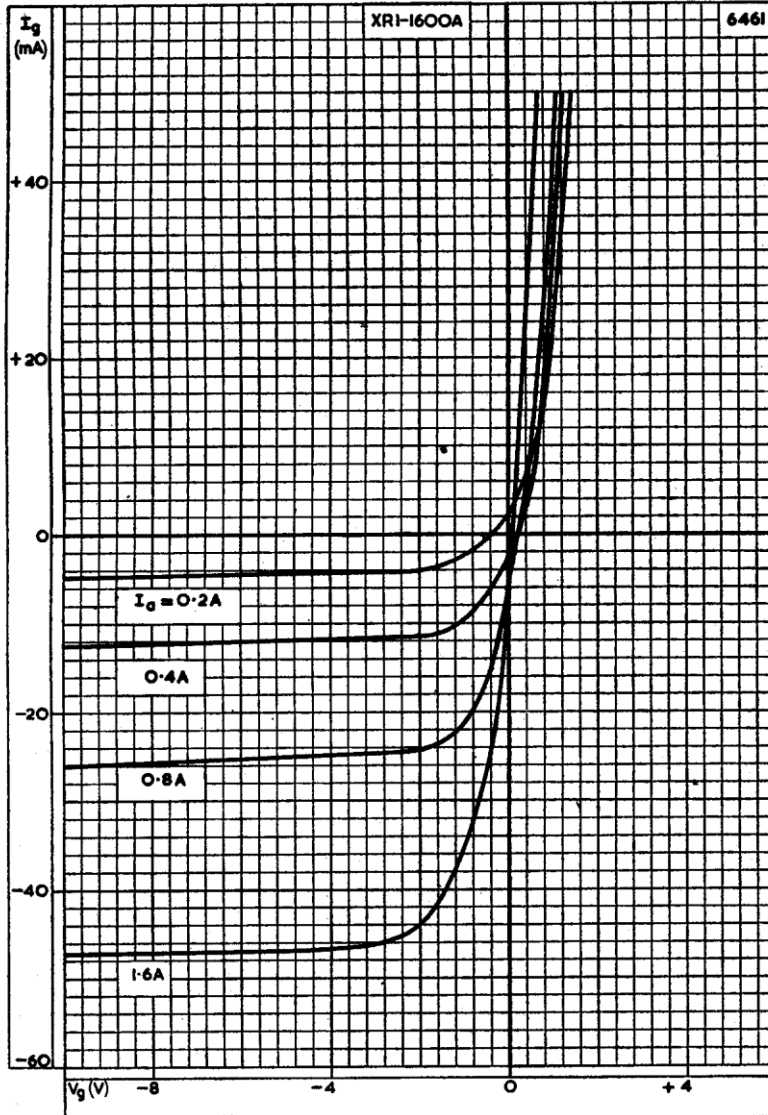


CONTROL CHARACTERISTIC



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GRID ION CURRENT CHARACTERISTIC

