

**MERCURY VAPOUR
THYRATRON**

Service Type CV1147

To be read in conjunction with the Rectifier and Thyatron Preamble.

ABRIDGED DATA

Mercury vapour thyatron for industrial control or ignitor firing applications.

Peak forward anode voltage	1.0	kV max
Peak inverse anode voltage	1.5	kV max
Peak anode current	12.5	A max
Mean anode current	2.5	A max

GENERAL

Electrical

Cathode	indirectly heated, oxide coated
Heater voltage	5.0 V
Heater current	4.7 A
Cathode pre-heating time (minimum)	5.0 min
Inter-electrode capacitances:	
grid to anode	4.0 pF
grid to cathode	9.0 pF

Mechanical

Overall length	7.750 inches (196.9mm) max
Overall diameter	3.187 inches (80.95mm) max
Net weight	5 ounces (140g) approx
Mounting position	vertical, base down
Base	B.S.448-B4G (USM4B)
Top cap	see outline, page 6

Cooling natural

MAXIMUM AND MINIMUM RATINGS

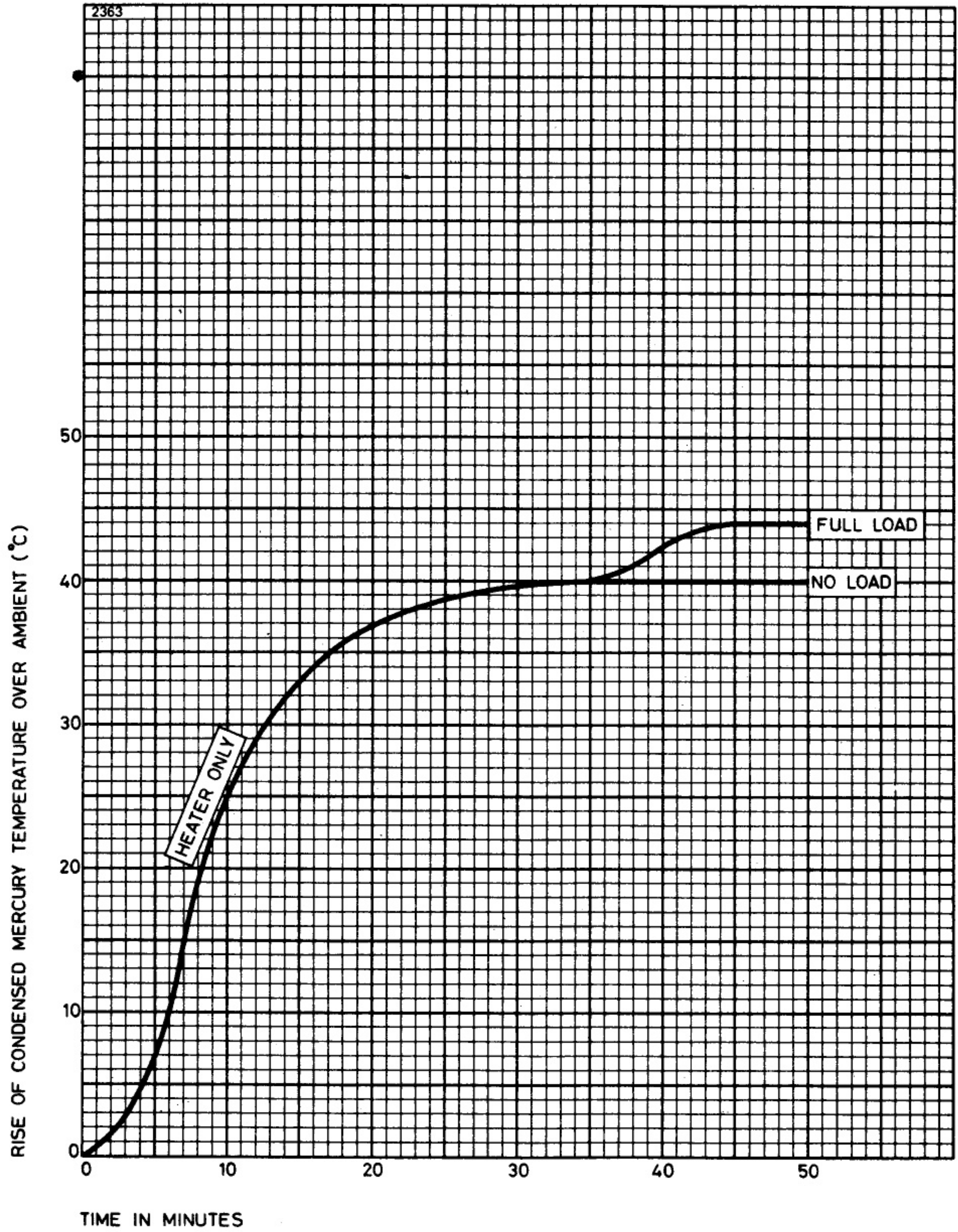
	Min	Max	
Peak forward anode voltage	—	1.0	kV
Peak inverse anode voltage	—	1.5	kV
Peak anode current (see note)	—	12.5	A
Mean anode current (averaging time 15s max)	—	2.5	A
Fault anode current (peak)	—	200	A
Duration of fault current	—	0.1	s
Condensed mercury temperature	40	80	°C
Negative grid voltage:			
before conduction	—	500	V
during conduction	—	10	V
Mean grid current	—	250	mA
Recommended grid resistor	10	220	kΩ
Cathode pre-heating time	5.0	—	min

CHARACTERISTICS

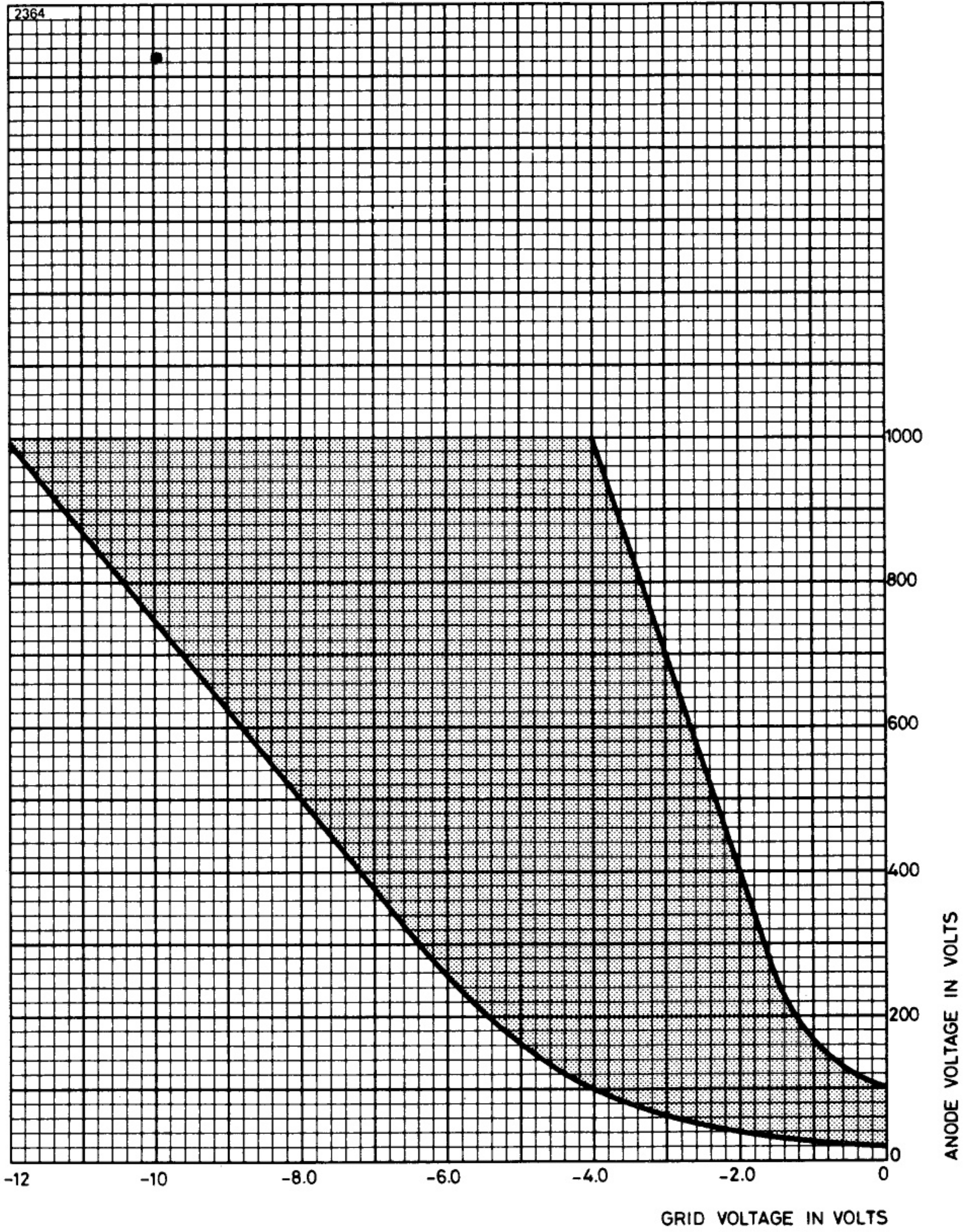
Voltage drop	16	V approx
Ionization time	10	μs approx
Recovery time	1.0	ms approx
Condensed mercury temperature rise:		
at no load	40	°C approx
at full load	44	°C approx

Note For ignitor firing service, the peak anode current rating is 30A max.

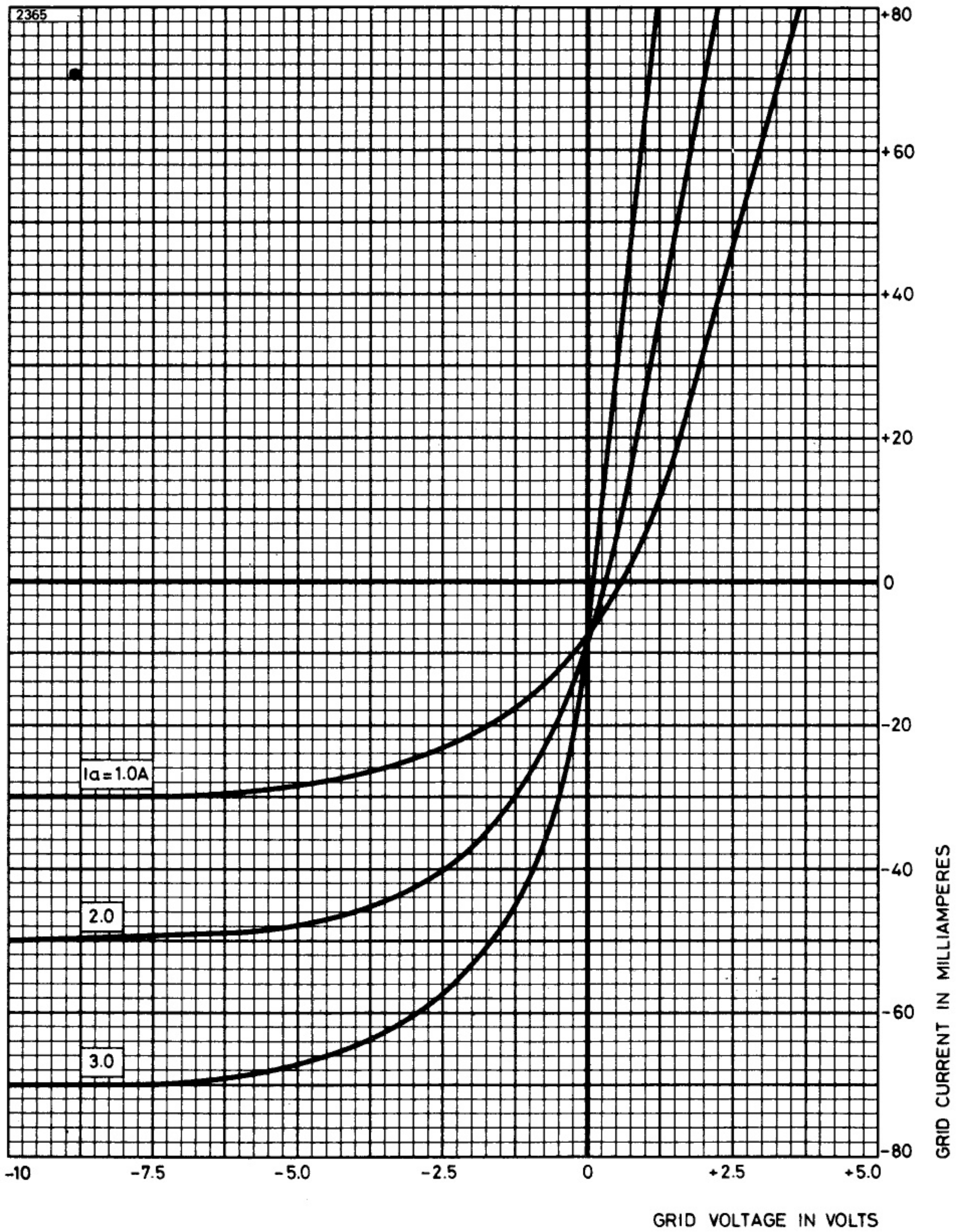
TYPICAL HEATING CHARACTERISTIC



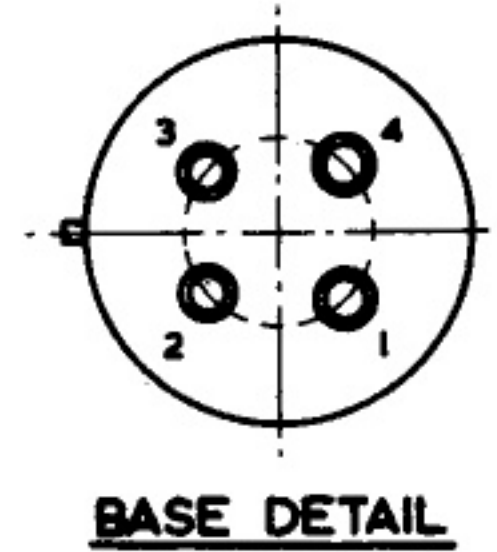
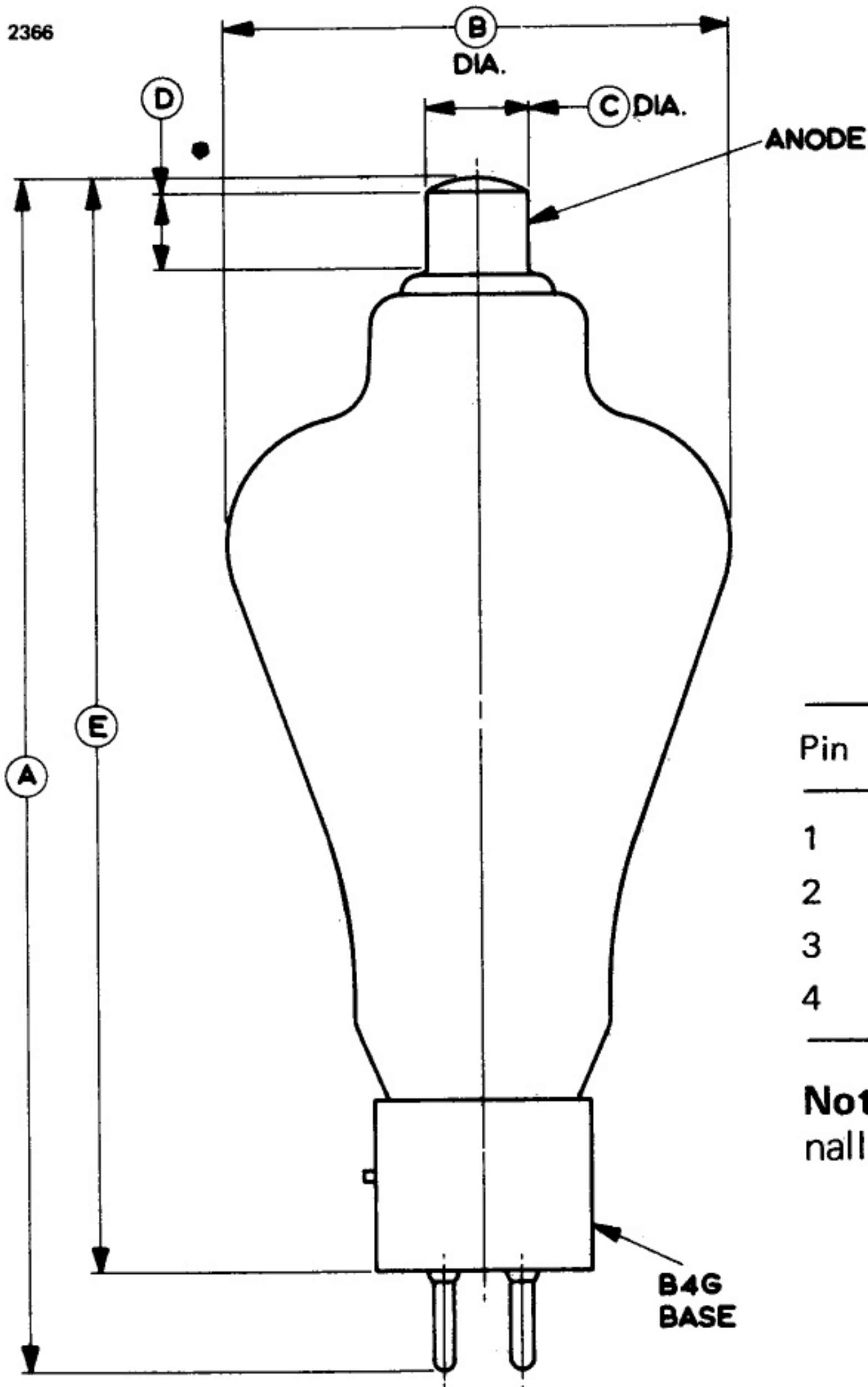
CONTROL CHARACTERISTIC



TYPICAL GRID CURRENT CHARACTERISTICS



OUTLINE



Pin	Element
1	Heater
2	Cathode
3	Grid
4	Heater

Note Pin 2 (cathode) is internally connected to pin 4.

Ref	Inches	Millimetres
A	7.500 ± 0.250	190.5 ± 6.35
B	3.187 max	80.95 max
C	0.641 ± 0.015	16.28 ± 0.38
D	0.420 min	10.67 min
E	6.875 ± 0.250	174.6 ± 6.35

Millimetre dimensions have been derived from inches.