



MERCURY VAPOUR  
THYRATRON

Service Type CV5027

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 . . . . .	15	A max
Mean anode current . . . . .	2.5	A max

**GENERAL**

**Electrical**

Cathode . . . . .	indirectly heated, oxide coated
Heater voltage . . . . .	5.0 V
Heater current (average) . . . . .	4.7 A
Cathode pre-heating time (minimum) . . . . .	5.0 min
Inter-electrode capacitances:	
grid to anode . . . . .	3.0 pF
grid to cathode . . . . .	6.0 pF

**Mechanical**

Overall length . . . . .	184mm (7.244 inches) max
Overall diameter . . . . .	65mm (2.559 inches) max
Net weight . . . . .	5 ounces (140g) approx
Mounting position . . . . .	vertical, base down
Base . . . . .	B.S.448-B4G (USM4B)
Top cap . . . . .	B.S.448-CT3

**Cooling** . . . . . natural

## MAXIMUM AND MINIMUM RATINGS

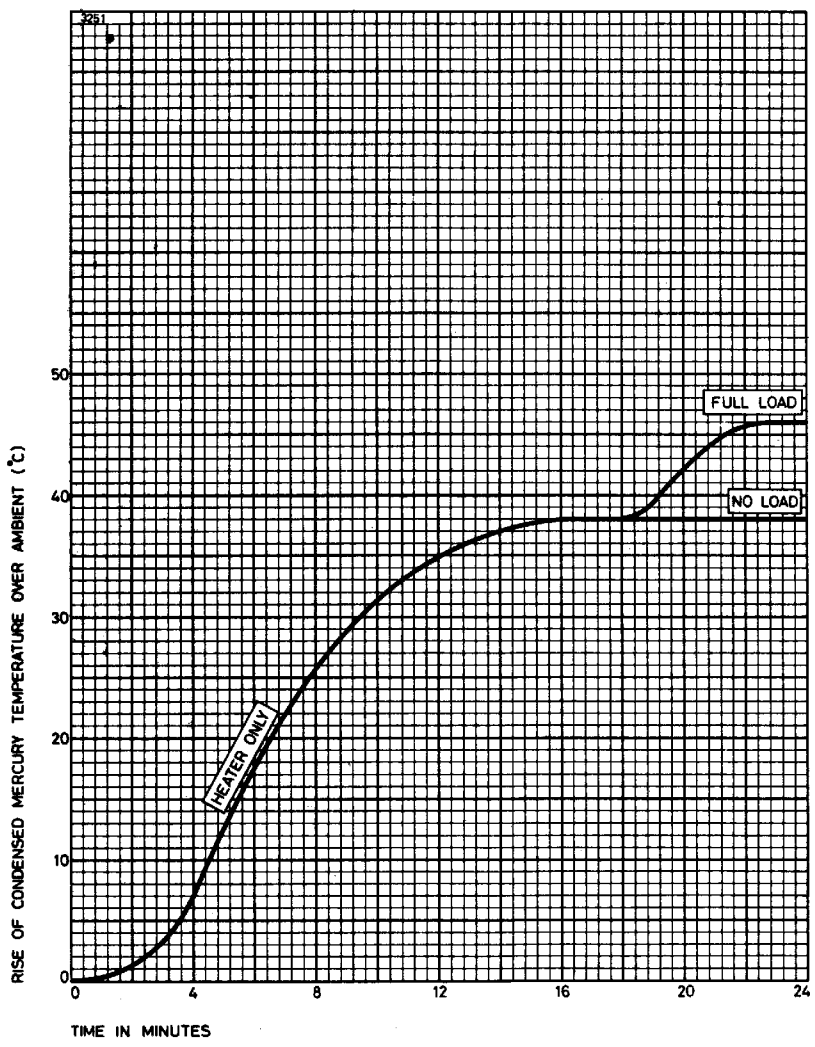
	Min	Max	
Peak forward anode voltage . . . . .	—	1.0	kV
Peak inverse anode voltage . . . . .	—	1.5	kV
Peak anode current (see note) . . . . .	—	15	A
Mean anode current (averaging time 15s max) . . . . .	—	2.5	A
Fault anode current (peak) . . . . .	—	200	A
Duration of fault current . . . . .	—	0.1	s
Condensed 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	100	kΩ
Cathode pre-heating time . . . . .	5.0	—	min

## CHARACTERISTICS

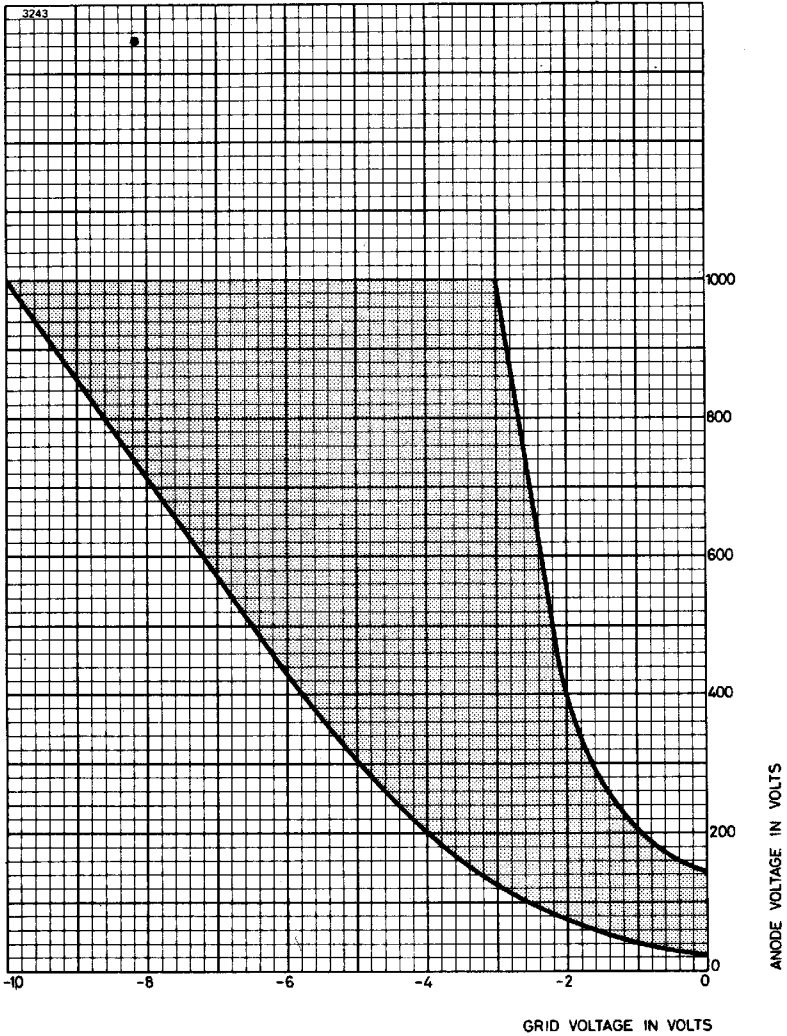
Voltage drop . . . . .	16	V approx
Ionization time . . . . .	10	μs approx
Recovery time . . . . .	1.0	ms approx
Condensed mercury temperature rise:		
at no load . . . . .	38	°C approx
at full load . . . . .	46	°C approx

**Note** For ignitor firing service, the peak anode current rating is 40A max.

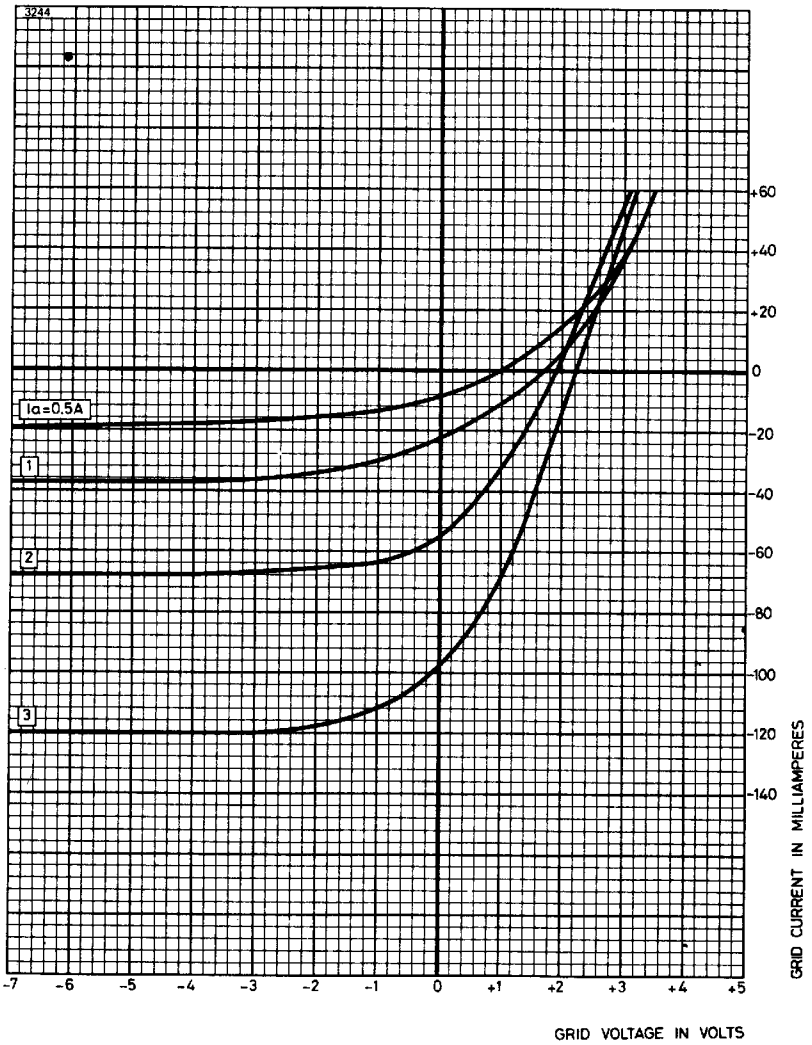
# TYPICAL HEATING CHARACTERISTIC



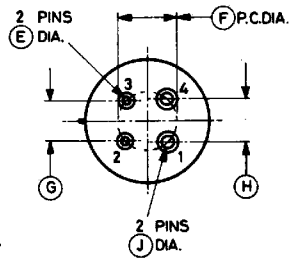
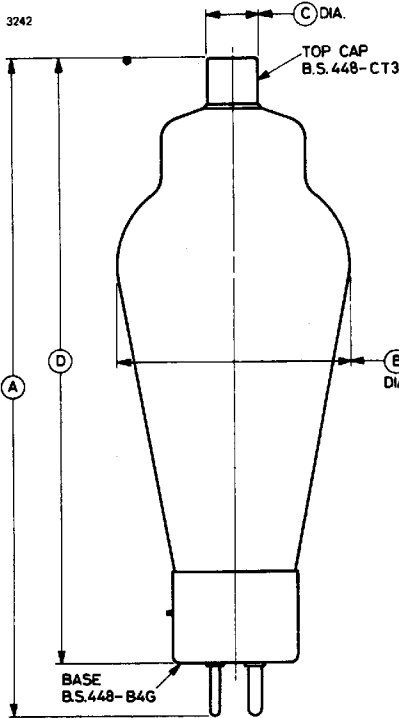
# CONTROL CHARACTERISTIC



# TYPICAL GRID CURRENT CHARACTERISTICS



**OUTLINE (All dimensions without limits are nominal)**



Pin	Element
1	Heater
2	Cathode
3	Grid
4	Heater, cathode
Cap	Anode

Ref	Inches	Millimetres	Ref	Inches	Millimetres
A*	7.244 max	184.0 max	F	0.640	16.26
B*	2.559 max	65.0 max	G	0.437	11.10
C	0.566	14.38	H	0.468	11.89
D*	6.654 max	169.0 max	J	0.156	3.96
E	0.125	3.18			

Millimetre dimensions have been derived from inches except where marked\*