5559

MERCURY VAPOUR THYRATRON

Service Type CV5027

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

ABRIDGED DATA

Mercury vapour thyratron 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

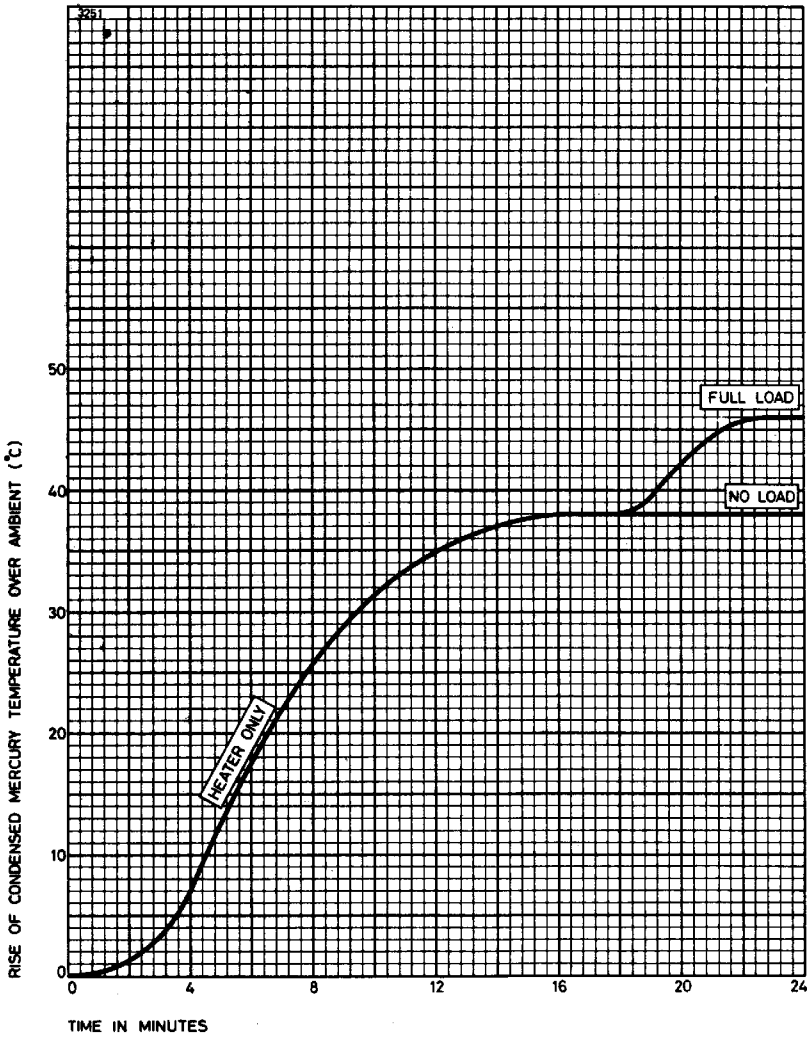
	Min	Max	
Peak forward anode voltage	–	1.0	kV
Peak inverse anode voltage	–	1.5	kV
Peak anode current (see note)	–	15	A
Mean anode current (averaging time 15s max)	–	2.5	A
Fault anode current (peak)	–	200	A
Duration of fault current	–	0.1	s
Condensed mercury temperature	40	80	°C
Negative grid voltage:			
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

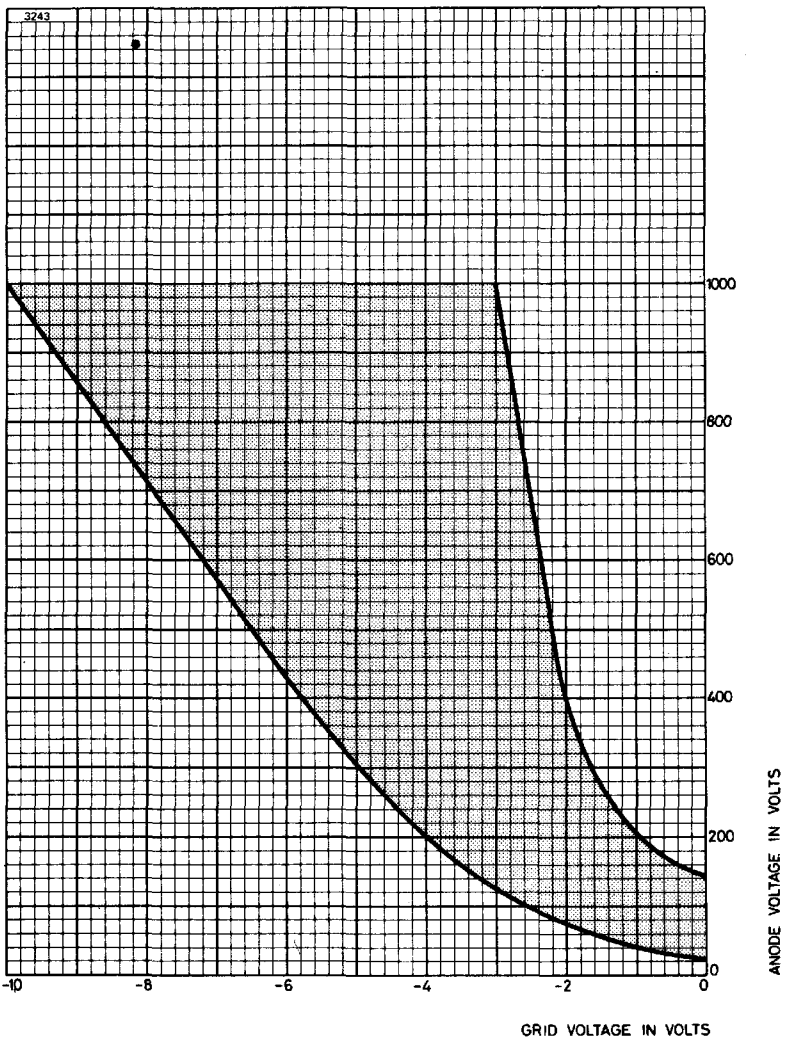
Voltage drop	16	V approx
Ionization time	10	μs approx
Recovery time	1.0	ms approx
Condensed mercury temperature rise:		
at no load	38	°C approx
at full load	46	°C approx

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

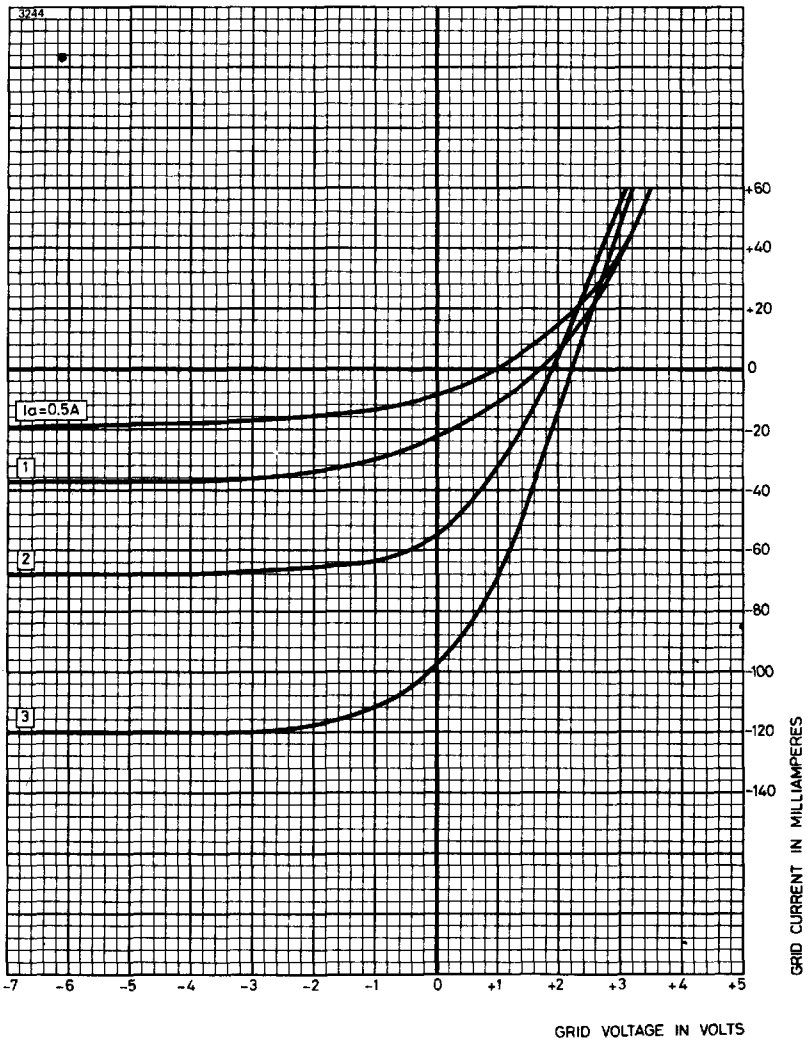
TYPICAL HEATING CHARACTERISTIC



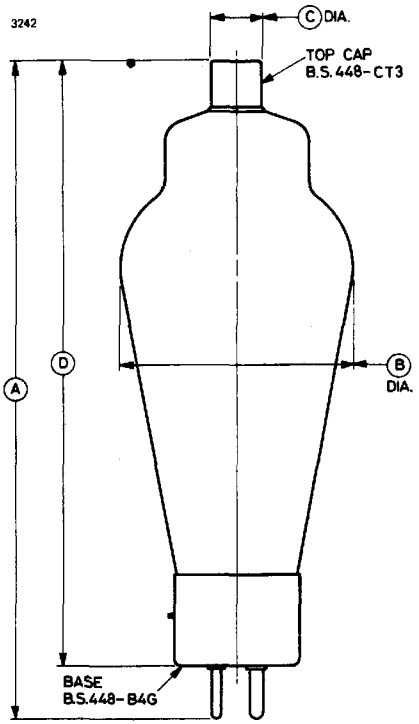
CONTROL CHARACTERISTIC

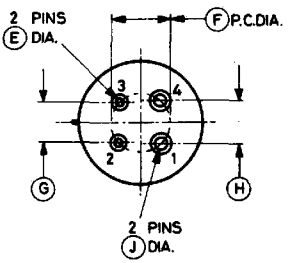


TYPICAL GRID CURRENT CHARACTERISTICS



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*