

BT17

**MERCURY VAPOUR
THYRATRON**

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

ABRIDGED DATA

Mercury vapour thyatron for industrial control applications.

Peak forward anode voltage	1.0	kV max
Peak inverse anode voltage	1.5	kV max
Peak anode current	40	A max
Average anode current	6.0	A max



GENERAL

Electrical

Cathode	indirectly heated, oxide coated	
Heater voltage	5.0	V
Heater current	10.5	A
Cathode pre-heating time (minimum)	5.0	min
Inter-electrode capacitances:		
grid to anode	6.0	pF
grid to cathode	15	pF

Mechanical

Overall length (excluding flexible leads)	10.250 inches (260.4mm) max
Overall diameter	3.157 inches (80.19mm) max
Net weight	1.2 pounds (540g) approx
Mounting position	vertical, base down
Connections	flying leads

Cooling	natural
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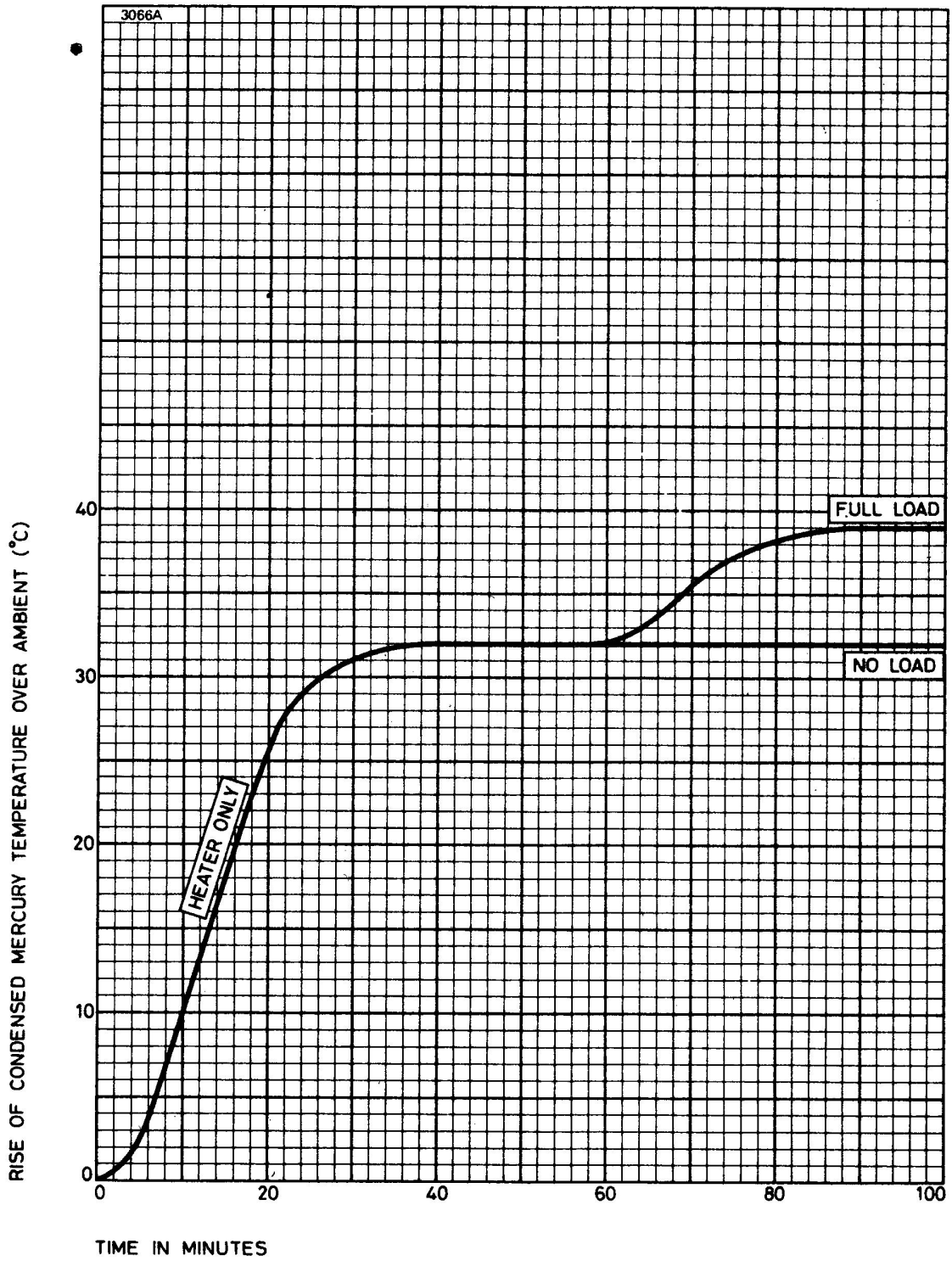
MAXIMUM AND MINIMUM RATINGS (Absolute values)

	Min	Max	
Peak forward anode voltage	—	1.0	kV
Peak inverse anode voltage	—	1.5	kV
Peak anode current	—	40	A
Average anode current (averaging time 15s max)	—	6.0	A
Fault anode current (peak)	—	400	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
Average grid current	—	250	mA
Recommended grid resistor	10	100	kΩ
Cathode pre-heating time	5.0	—	min

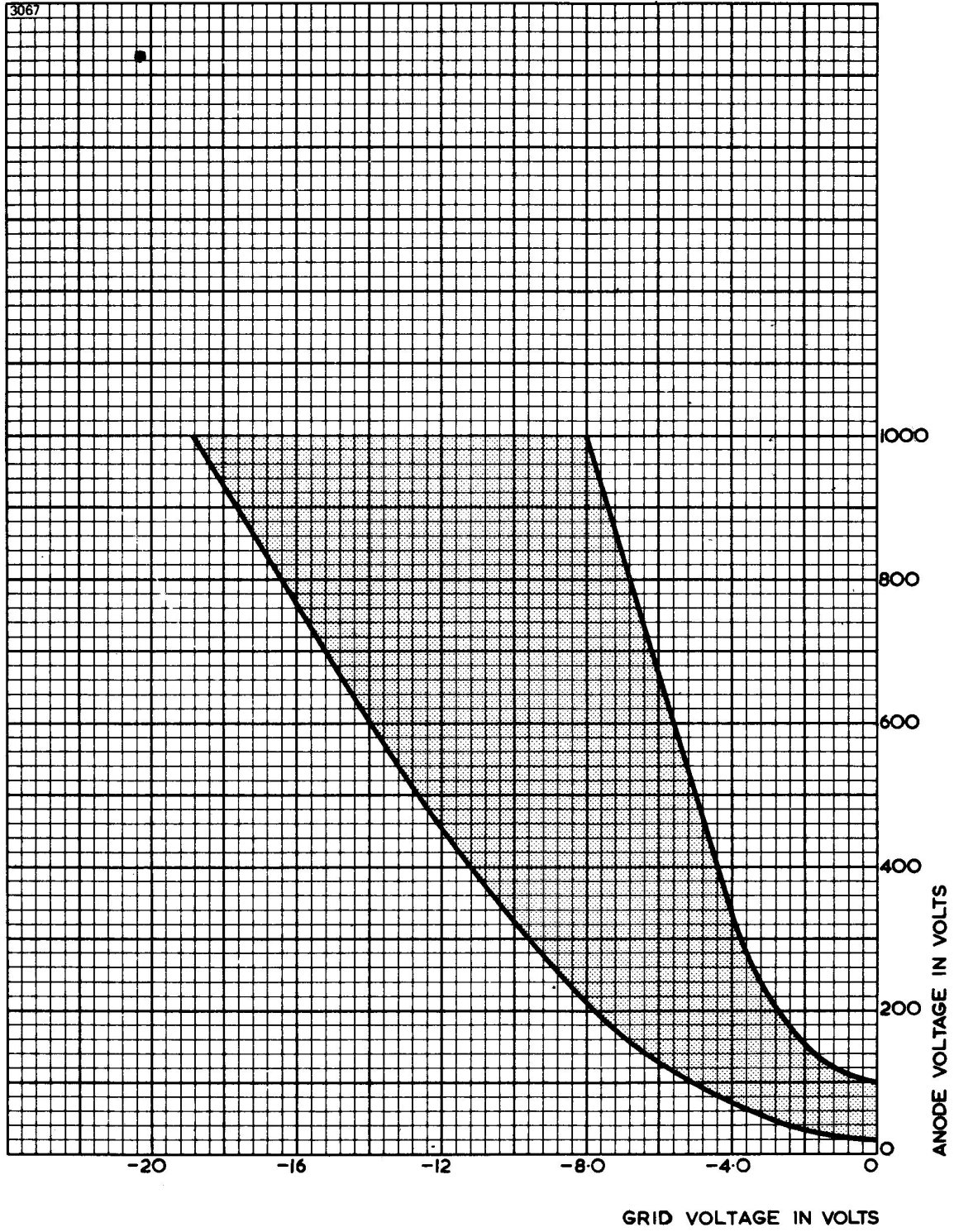
CHARACTERISTICS

Voltage drop	16	V approx
Ionisation time	10	μs approx
Recovery time	1.0	ms approx
Condensed mercury temperature rise:		
at no load	32	°C approx
at full load	39	°C approx

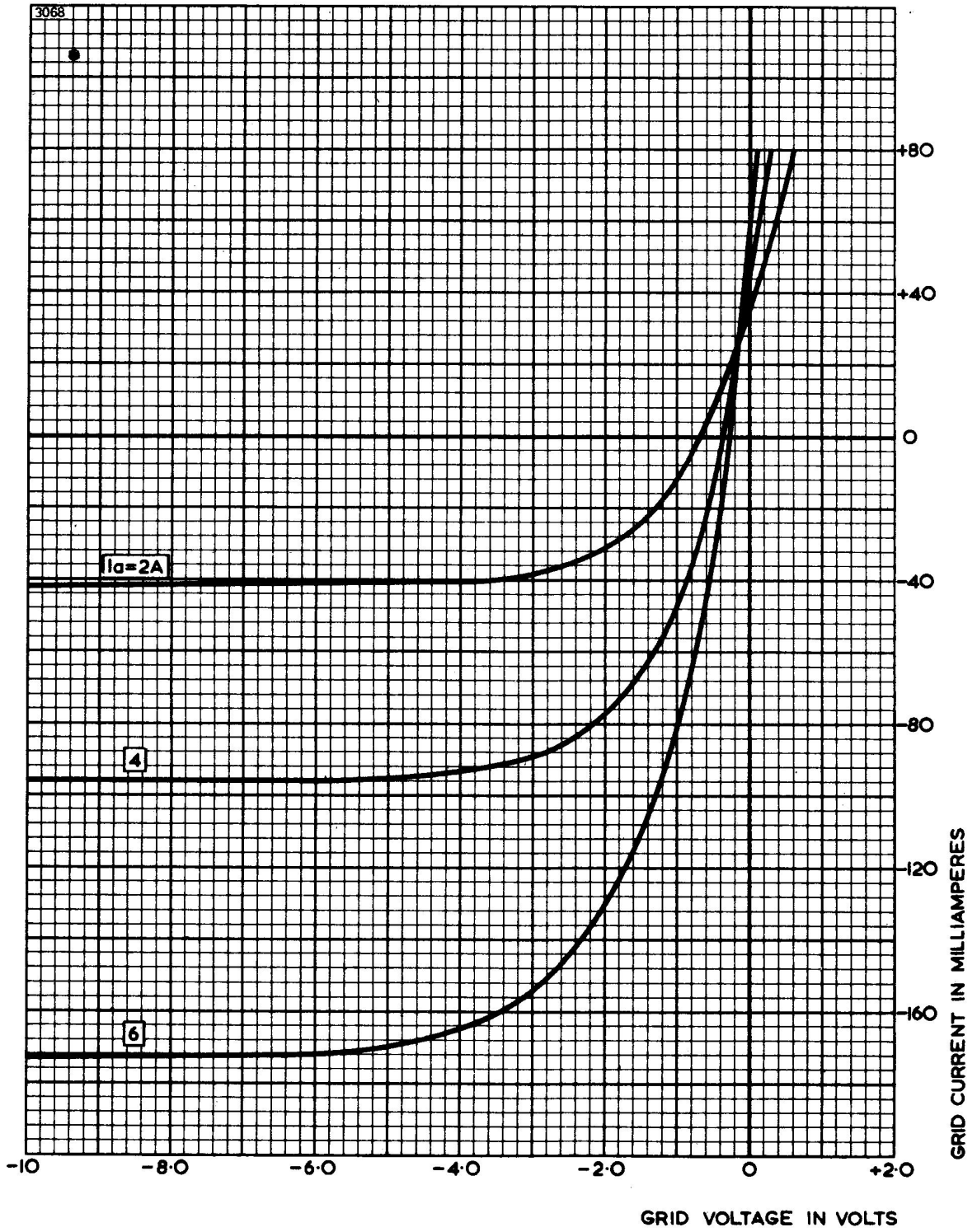
TYPICAL HEATING CHARACTERISTIC



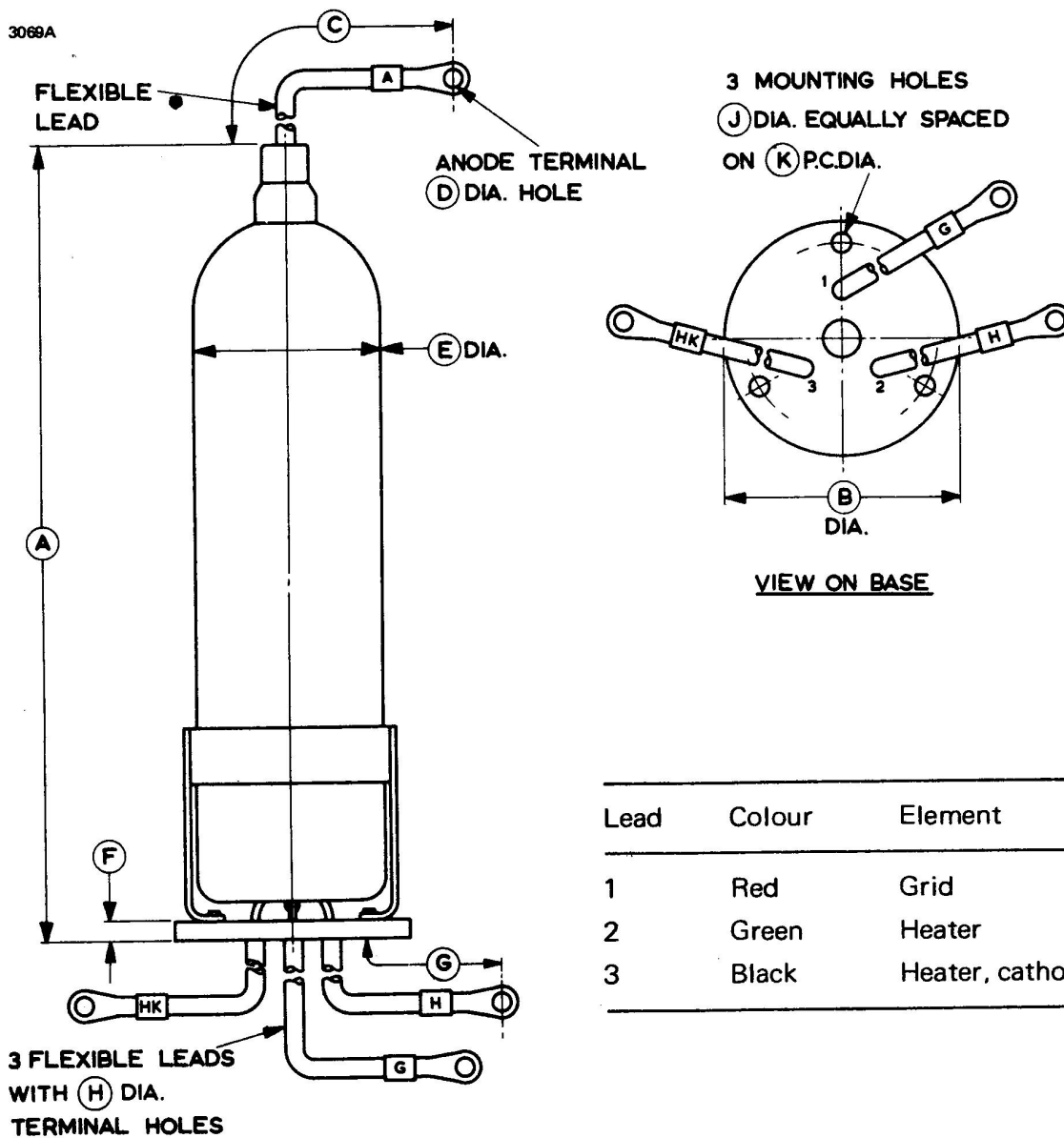
CONTROL CHARACTERISTIC



TYPICAL GRID CURRENT CHARACTERISTICS



OUTLINE (All dimensions without limits are nominal)



Lead	Colour	Element
1	Red	Grid
2	Green	Heater
3	Black	Heater, cathode

Ref	Inches	Millimetres	Ref	Inches	Millimetres
A	10.000 ± 0.250	254.0 ± 6.4	F	0.250	6.35
B	3.157 max	80.19 max	G	7.500 ± 0.250	190.5 ± 6.4
C	6.500 ± 0.250	165.1 ± 6.4	H	0.266	6.76
D	0.265	6.73	J	0.250 ± 0.002	6.350 ± 0.051
E	2.500	63.5	K	2.625 ± 0.010	66.68 ± 0.25

Millimetre dimensions have been derived from inches.