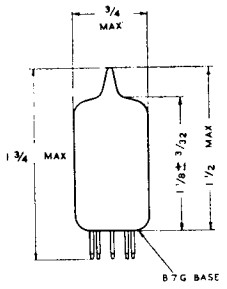
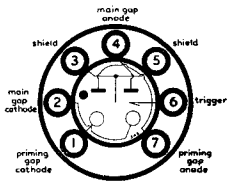


TYPE G1/371K HIGH SPEED PRIMED-TRIGGER COLD-CATHODE TUBE



The G1/371K is a high-speed primed-trigger tube developed for use with the G10/241E Unidirectional Cold-Cathode Gas Filled Decade Counter for which a single cathode trigger tube is required as a coupling element between tubes. Its speed and general characteristics, however, make it a useful general component. It also has features which make it specially suitable for use in circuits where a high input impedance is required.

MAIN ELECTRODE CHARACTERISTICS

Maximum pulse current output	15	mA
Maximum D.C. current output	10	mA
Minimum D.C. current output	2	mA
Anode supply voltage range	270 to 360	V
Main gap maintaining voltage	175 to 185	V
Maximum cathode voltage output	140	V
Shield voltage applied through 50 kΩ	150	V
Trigger Bias (for V_a up to 325 V)	0 to 165	V
Trigger Bias (for V_a up to 360 V)	60 to 165	V
††Trigger breakdown potential on application of a 25 micro-second square pulse based on maximum bias	12 to 26	V
*De-ionisation Time (max.)	30	μ sec
†Transfer Time (nom.)	0.5	μ sec

DIRECT INTERELECTRODE CAPACITANCES

Trigger to cathode	3.0	pF
Trigger to all other electrodes	5.0	pF

PRIMING GAP CHARACTERISTICS

Priming gap current	0.2 to 0.5	mA
Anode feed resistance	390	kΩ
Cathode resistance to earth or main gap cathode potential	56	kΩ

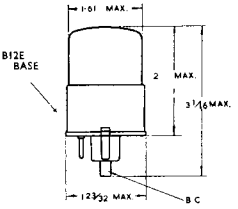
The priming gap cathode must not be more than 140 volts negative to the main cathode at any time.

* De-ionisation time to be short enough to permit a re-application of the nominal working voltage (90 per cent of maximum, i.e. 325 volts) 30 micro-seconds after the extinguishing of a D.C. discharge of maximum rated current by means of a rectangular pulse applied to the anode. The base of the extinguishing pulse shall be 20 volts below the V_m of the main gap, all other electrodes may be at potentials within their working range.

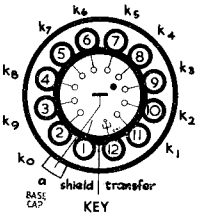
† This is the time interval between current flowing in the trigger cathode circuit as the result of applying a trigger pulse, and conduction starting in the main anode-cathode gap.

†† For pulse widths of less than 25 μ sec, the triggering pulse ← amplitude is an inverse function of the pulse width.

For details of circuitry, apply to Standard Telephones & Cables Ltd., Special Valve Sales, Connaught House, Aldwych, London, W.C.2.



TYPE G10/241E
UNIDIRECTIONAL COLD-CATHODE GAS-FILLED DECADE COUNTER



The G10/241E is a single-ended cold-cathode unidirectional gas-filled counter and distributor tube. It has ten cathodes which are used to indicate the number of the count, either visually at low speeds or by means of the voltage developed across the cathode load at high speeds. It is capable of counting pulses at repetition speeds from approximately 0 up to 20 kc/s.

Each cathode provides a voltage output that is sufficient either to operate a coupling tube to the next counter stage or a registering circuit. The tube has been designed so that it is possible to view the discharge directly at low speeds, and so obtain a direct indication of the count. To this end the holes in the anode through which the glow is visible have been numbered.

D.C. CHARACTERISTICS (Nominal)

Anode-cathode breakdown voltage	280	V
Anode-transfer electrode breakdown voltage	280	V
Anode-cathode maintaining voltage (approx.)	180	V
Cathode current	3.7	mA

A special socket has been designed for use with this valve (McMurdo type X12E).

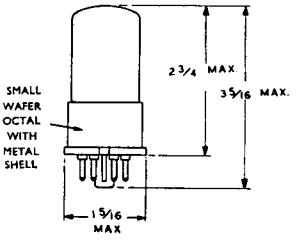
continued overleaf

TYPICAL OPERATING CONDITIONS

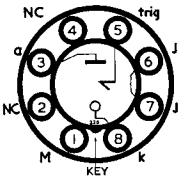
(For pulse repetition frequencies up to 5 kc/s.)

H.T. supply voltage (stabilised)	315 to 345	V
Transfer electrode bias (nominal)	75	V
Shield bias (nominal)	90	V
Anode load	24 ± 2%	kΩ
Cathode load	15 ± 5%	kΩ
Cathode load capacitor	0.005 ± 20%	μF
Transfer pulse amplitude	120 ± 15	V
(Measured at the input capacitor with G10/241E in circuit.)		
Transfer pulse width	16 ± 4	μs
Cathode pulse output (min.)	40	V

For full technical details for this valve, apply Standard Telephones & Cables Ltd., Special Valve Sales, Connaught House, Aldwych, London, W.C.2.



TYPE G150/2D
COLD CATHODE GAS-FILLED TRIODE



The G150/2D is a cold cathode, three-electrode, gas-filled triode. It has an activated cathode giving a low maintaining voltage, together with a good life performance.

CHARACTERISTICS

Minimum control gap breakdown voltage		60	V
Maximum control gap breakdown voltage		80	V
Nominal control gap maintaining voltage	At 20 mA Cathode Current	60	V
Maximum control gap maintaining voltage		70	V
Minimum main gap breakdown voltage		150	V
Minimum main gap maintaining voltage	At 20 mA Cathode Current	60	V
Maximum main gap maintaining voltage		77	V
Recommended value of operating current for relay operation		20	mA
Recommended value of operating current for counter applications		2	mA

MAXIMUM RATINGS

Maximum peak cathode current	50	mA
Maximum average cathode current	30	mA

DYNAMIC CHARACTERISTICS

Transfer

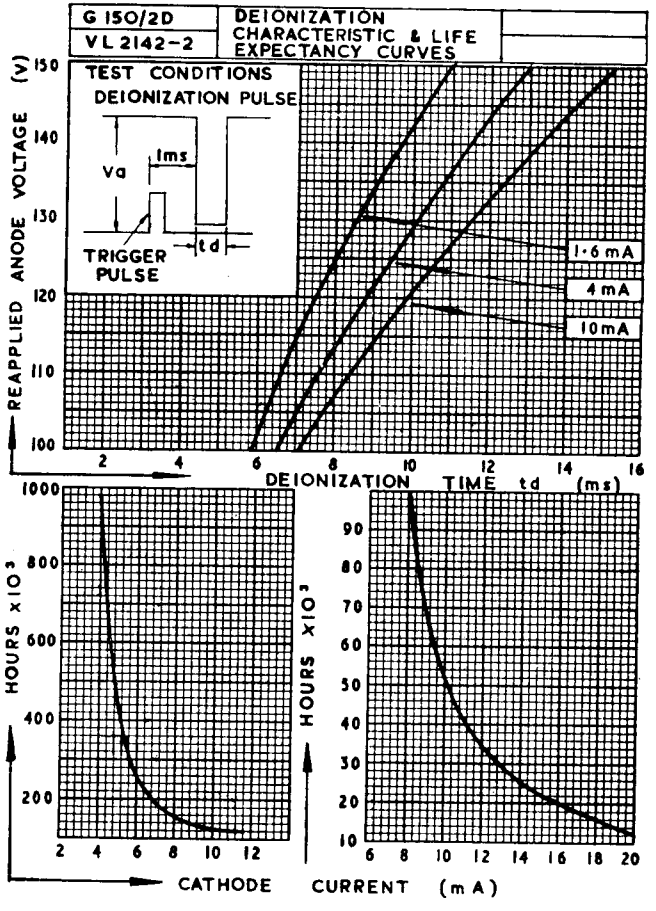
For general dynamic behaviour, see curves at the end of this data.

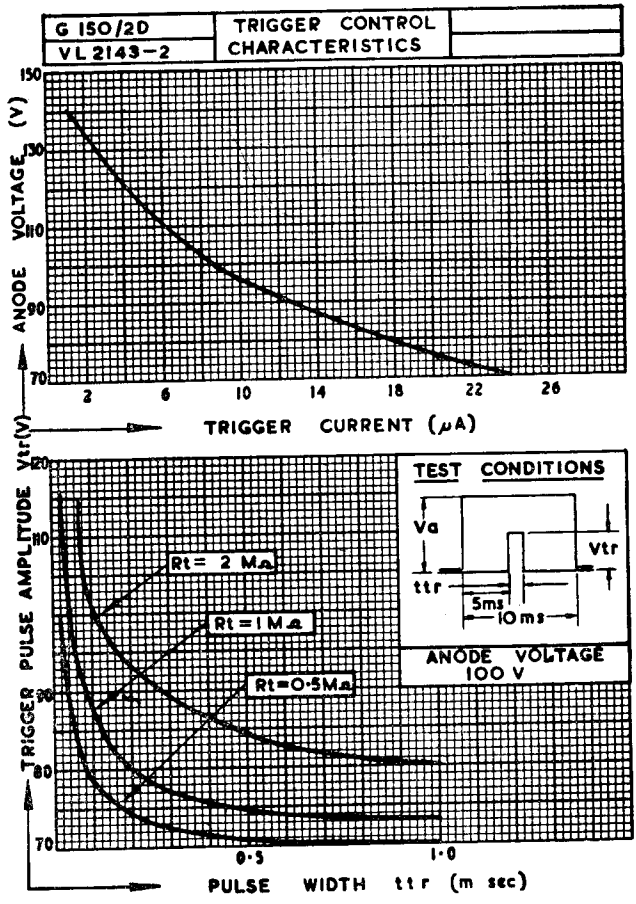
De-ionisation

It should be noted that the curves shown refer to most unfavourable conditions. If the negative going pulse went to approximately 45 volts, instead of to zero, the de-ionisation time would be improved by as much as a factor of three.

APPLICATION NOTE

The life expectancy of these valves is a function of cathode current. Curves showing typical figures of life versus D.C. cathode current are included in this data.




G 150/2D
VL 2143-2
TRIGGER CONTROL CHARACTERISTICS
ANODE VOLTAGE (V)
150
130
110
90
70
2
6
10
14
18
22
26
TRIGGER CURRENT (μA)
TRIGGER PULSE AMPLITUDE Vtr(V)
120
110
100
90
80
70
Rt= 2 MΩ
Rt=1 MΩ
Rt=0·5MΩ
0·5
1·0
PULSE WIDTH ttr (m sec)
TEST CONDITIONS
Va
Vtr
ttr
5ms
10ms
ANODE VOLTAGE 100 V