

25mA tetrode inert gas-filled thyatron with negative control characteristic. Primarily intended for industrial control applications.

This data should be read in conjunction with DEFINITIONS AND GENERAL OPERATIONAL RECOMMENDATIONS—THYRATRONs which precede this section of the handbook.

PRELIMINARY DATA

LIMITING VALUES (absolute ratings, not design centre)

It is important that these limits are never exceeded and such variations as mains fluctuations, component tolerances and switching surges must be taken into consideration in arriving at actual valve operating conditions.

Max. peak anode voltage		
Inverse	500	V
Forward	500	V
Max. cathode current		
Peak	100	mA
Average (max. averaging time = 30s)	25	mA
Surge (fault protection, max. duration = 0.1s)	2.0	A
Max. negative control-grid voltage		
Before conduction	100	V
During conduction	10	V
Max. positive control-grid current for anode voltage more positive than -10V		
Peak	25	mA
Average (averaging time 1 cycle)	5.0	mA
Max. peak positive control-grid current for anode voltage more negative than -10V	30	μ A
Max. control-grid resistor		
Grid-controlled rectifier service	10	M Ω
Stand-by service	100	k Ω
Recommended minimum control-grid resistor	5	kΩ
Max. negative shield-grid voltage		
Before conduction	50	V
During conduction	10	V
Max. average positive screen-grid current for anode voltage more positive than -10V	5.0	mA
Max. peak heater-to-cathode voltage		
Cathode negative	25	V
Cathode positive	100	V
Min. valve heating time	10	s
Ambient temperature limits	-55 to +90	$^{\circ}$ C

Note: Where circuit conditions permit the shield-grid should be connected directly to the cathode.

CHARACTERISTICS

Electrical

Heater voltage	6.3	V
Heater current at 6.3V	150	mA
Capacitances		
C_{a-g1}	0.03	pF ←
C_{in}	2.0	pF
C_{out}	1.5	pF
Control ratio		←
g_1 to k, with $R_{g2} = 0\Omega$	250	
g_2 to k, with $R_{g1} = 0\Omega$	15	
Anode voltage drop	10	V
Recovery (deionisation) time (20 μ s pulse)		←
$V_a = 500V$, $i_{k(pk)} = 100mA$, $R_{g1} = 50k\Omega$		
$V_{g1} = -50V$	40	μ s
Critical grid current at $V_a = 350V$ r.m.s.	0.5	μ A

Mechanical

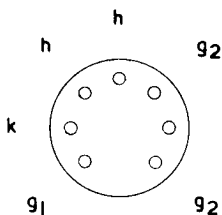
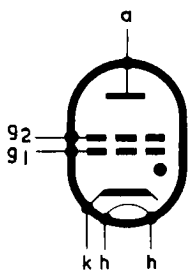
Type of cooling	Convection
Mounting position	Any

CONTROL CHARACTERISTIC (see page C4)

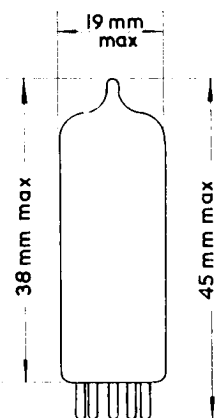
The curves given indicate the spread in characteristics due to:

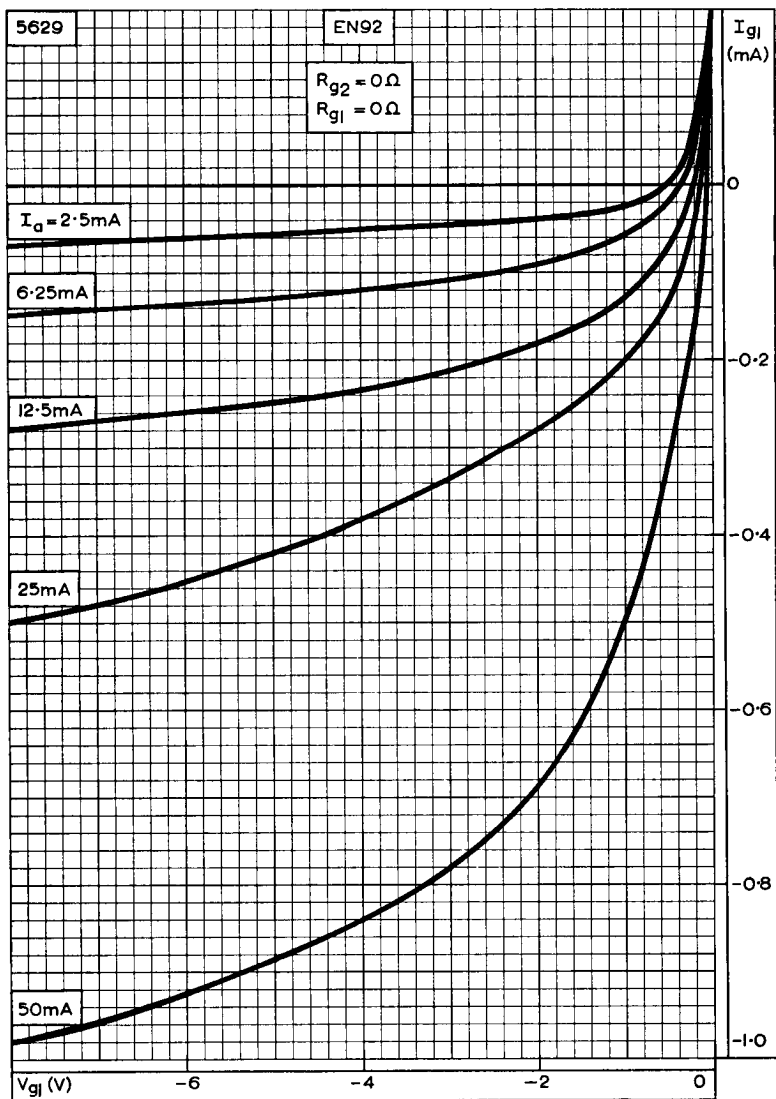
- Variations in characteristics due to changes in heater voltage.
- Variations in characteristics during life.
- Variation in grid resistor.

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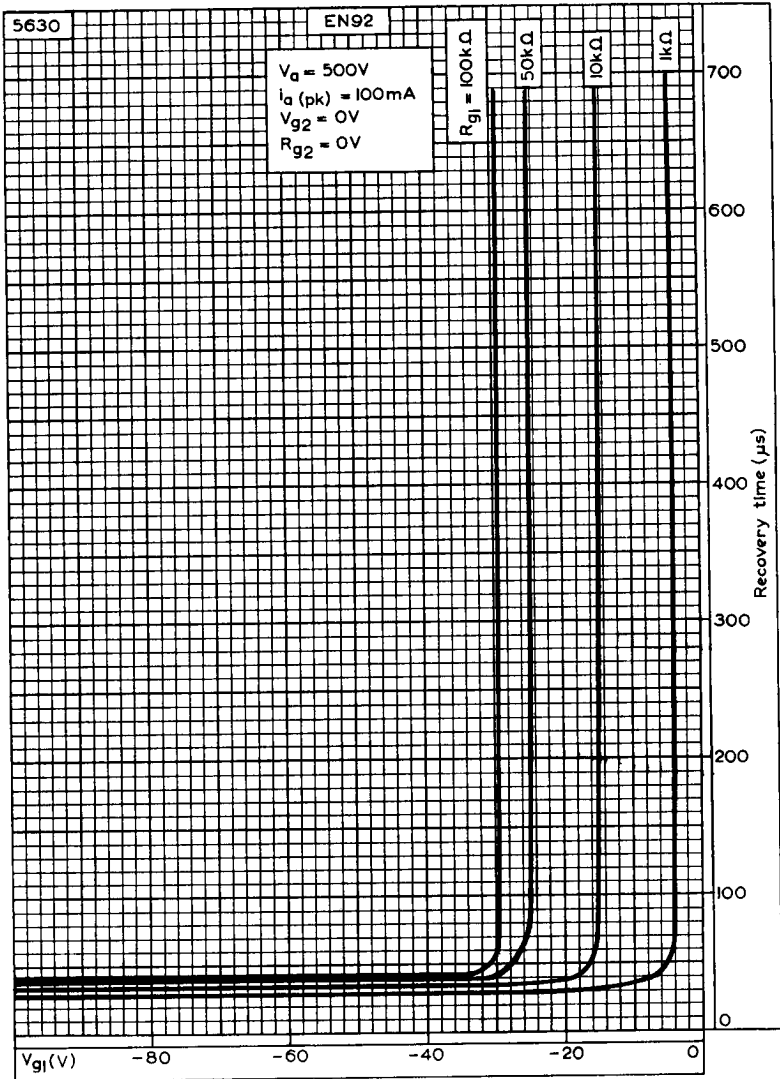


B7G Base

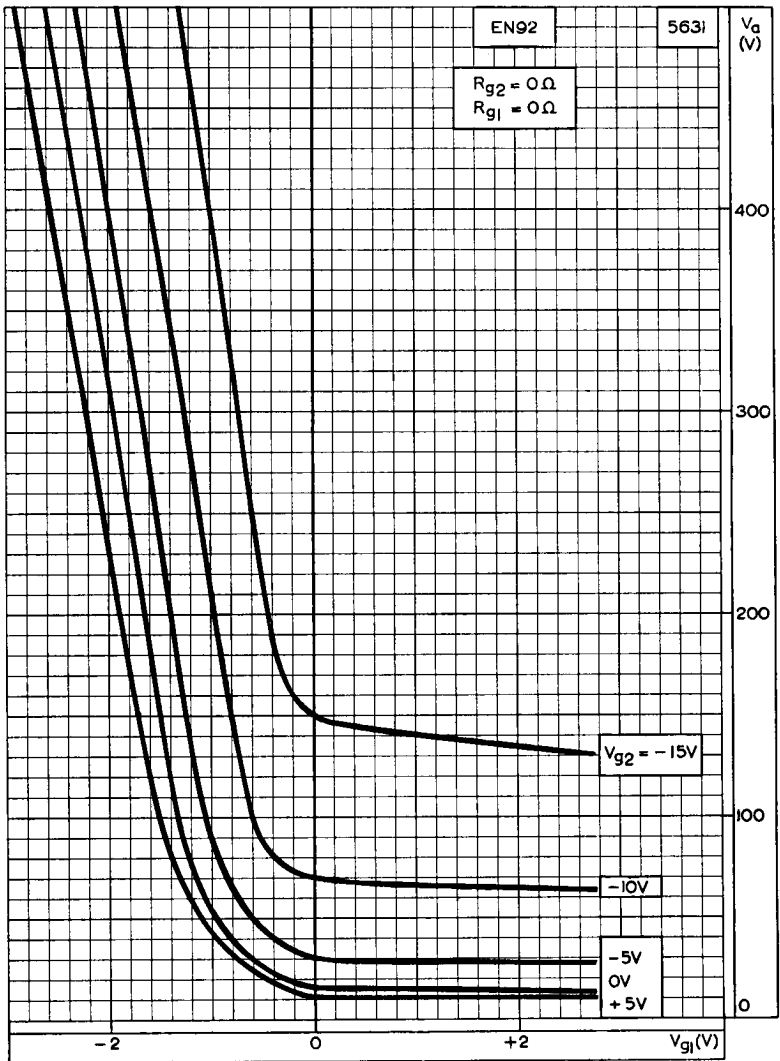




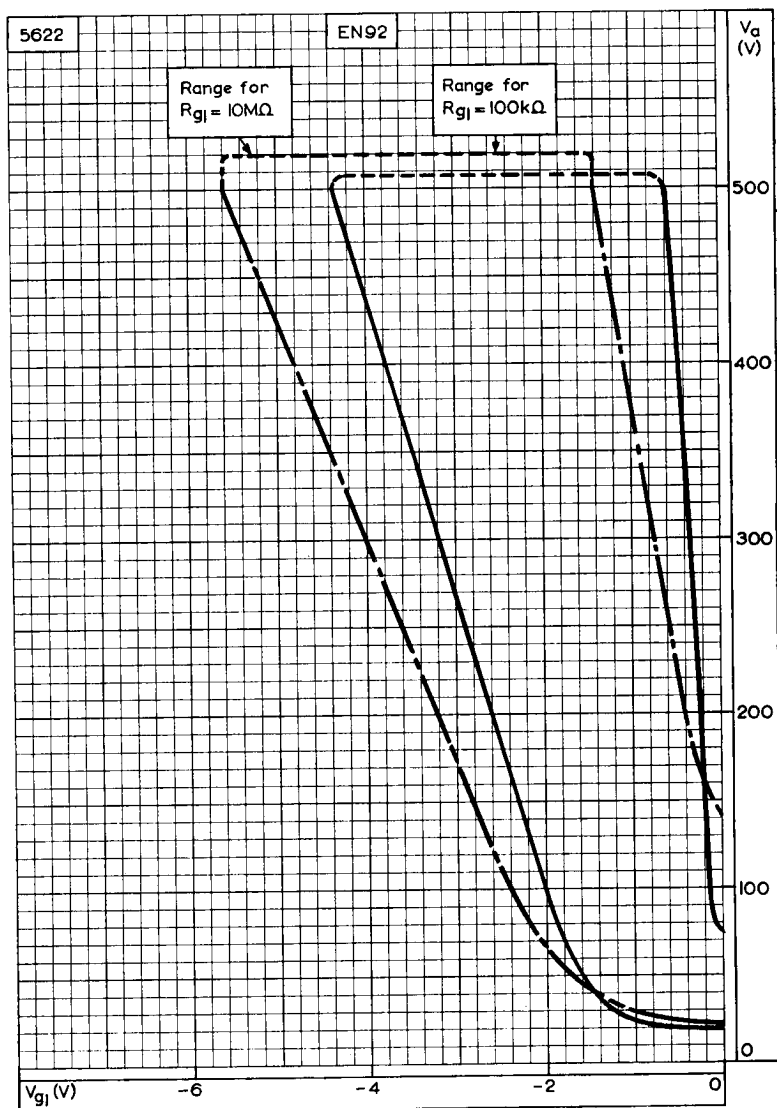
GRID ION CURRENT CHARACTERISTICS



RECOVERY TIME PLOTTED AGAINST CONTROL-GRID VOLTAGE



CONTROL CHARACTERISTICS



OPERATING RANGE OF CRITICAL GRID VOLTAGE
(See Page D2)