Mullard
DOUBLE-DIODE-TRIODE

TDD13C

The TDD13c is an indirectly heated double-diode-triode for use as combined detector and L.F. amplifier and for the application of automatic volume control in D.C./A.C. mains receivers.

HEATER CHARACTERISTICS

Heater Voltage	Vf=13·0 volts.
Heater Current	If=0·2 amp.
Heating Time—60 seconds	

DIMENSIONS

Overall Length ...	=128 mm.
Overall Diameter...	= 45 mm.
Bulb Finish—Metallised	

OPERATING CHARACTERISTICS (Triode)

Normal Anode Voltage	Va_w	= 200 volts
Anode Current (−Vg1=5·0)	Ia_w	= 4·0 mA
Grid Volts (Ia=4·0 mA)	$-Vg1_w$	= 5·0 volts
Mutual Conductance	S_w	= 2·0 mA/V
Anode Impedance	Ri_w	= 13,500 ohms
Amplification Factor	G_w	= 27
Cathode Bias Resistor	Rk	= 1,250 ohms

OPERATING DATA AS R.C. AMPLIFIER

Anode Voltage (Line)	Va	= 200 volts
Anode Resistance	Ra	= 160,000 ohms
Bias Voltage	−Vg1	= 3·6 volts
Anode Current	Ia	= 0·65 mA
Bias Resistance	Rk	= 5,500 ohms
Amplification Factor	G	= 19·5
Maximum Output Volts (D=5% 2nd H.) ...	Vo	= 37 v. R.M.S.

CAPACITIES

Grid-Cathode	Cgk	= 3·5 μμF
Anode-Cathode	Cak	= 2·9 μμF
Cathode-Diode (1)	Ckd1	= 2·5 μμF
Cathode-Diode (2)	Ckd2	= 3·25 μμF
Diode (1)-Diode (2)	Cd1d2	= 0·3 μμF
Diode (1)-Control Grid	Cd1g	= <0·0015 μμF
Diode (2)-Control Grid	Cd2g	= <0.0015 μμF

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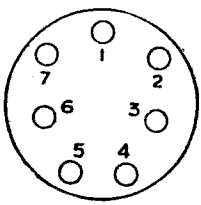
LIMITS

Maximum Anode Voltage	Va_{max}	= 200 volts
Maximum Anode Dissipation	Wa_{max}	= 1·5 watts
Maximum Diode Anode Voltage (Peak) ...	Vd_{max}	= 200 volts
Maximum Diode Anode Current	Id_{max}	= 0·8 mA
Maximum Cathode Current	Ik_{max}	= 10·0 mA
Maximum Resistance in Grid Circuit	$RglA_{max}$	= 1·5 megohms
Maximum Voltage—Heater to Cathode ...	Vfk_{max}	= 125 volts
Maximum Resistance—Heater to Cathode ...	Rfk_{max}	= 20,000 ohms

Range of Grid Voltage for 1 microamp. grid current = −0·2 to −0·8 volt

CONNECTIONS



Viewed from free end of pins.

Pin No. 1 Diode (1)
" 2 Metallisation
" 3 Diode (2)
" 4 Heater
" 5 Heater
" 6 Cathode
" 7 Anode
Top Cap—Control Grid (G1)

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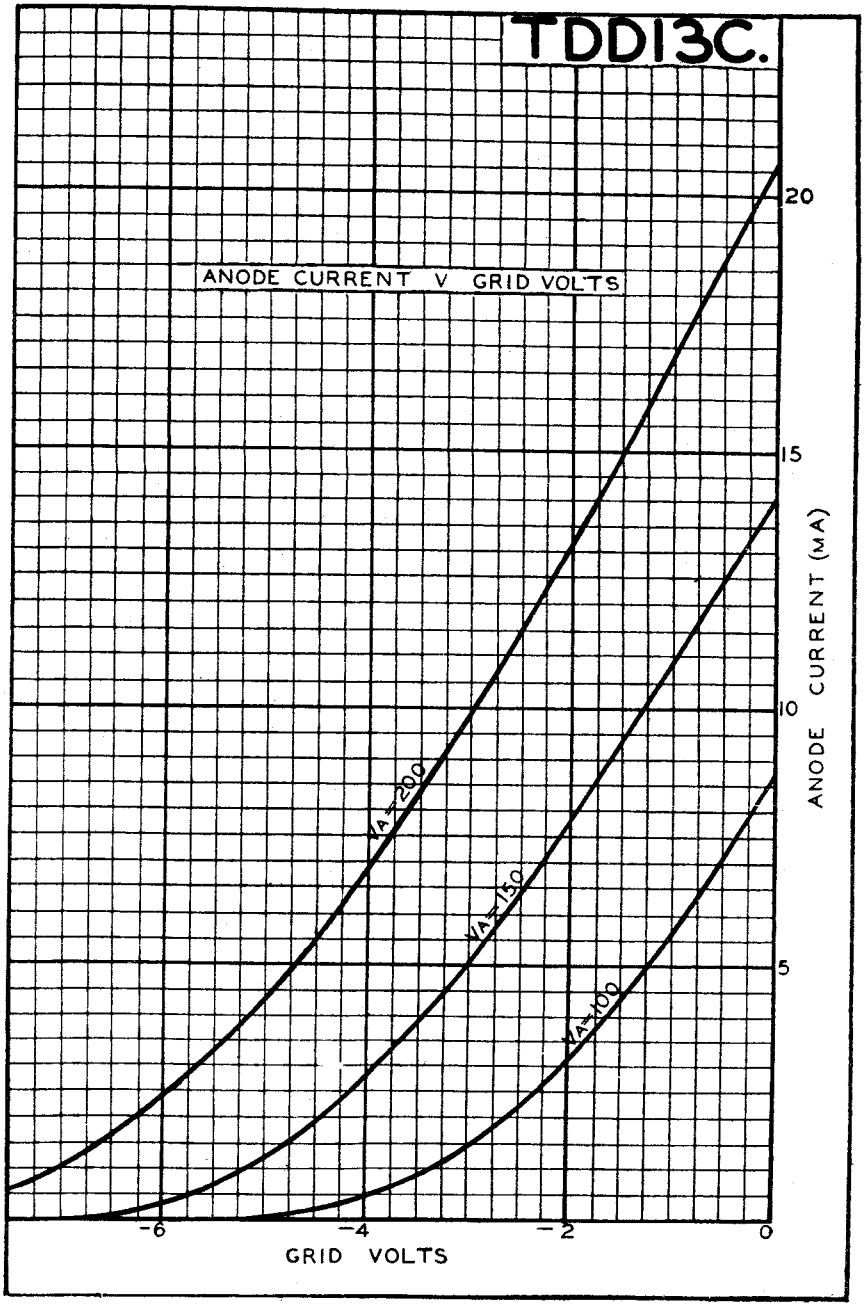

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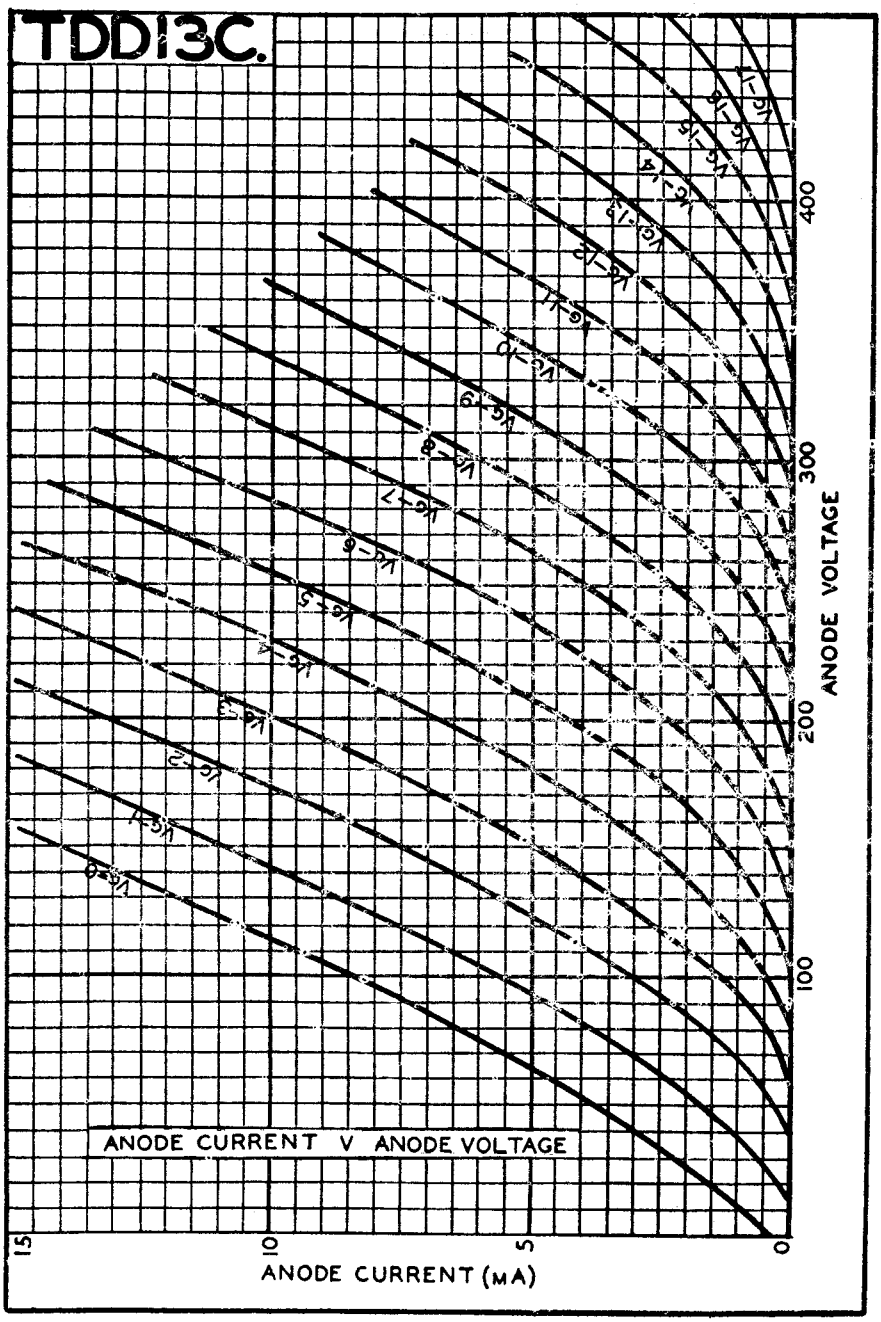

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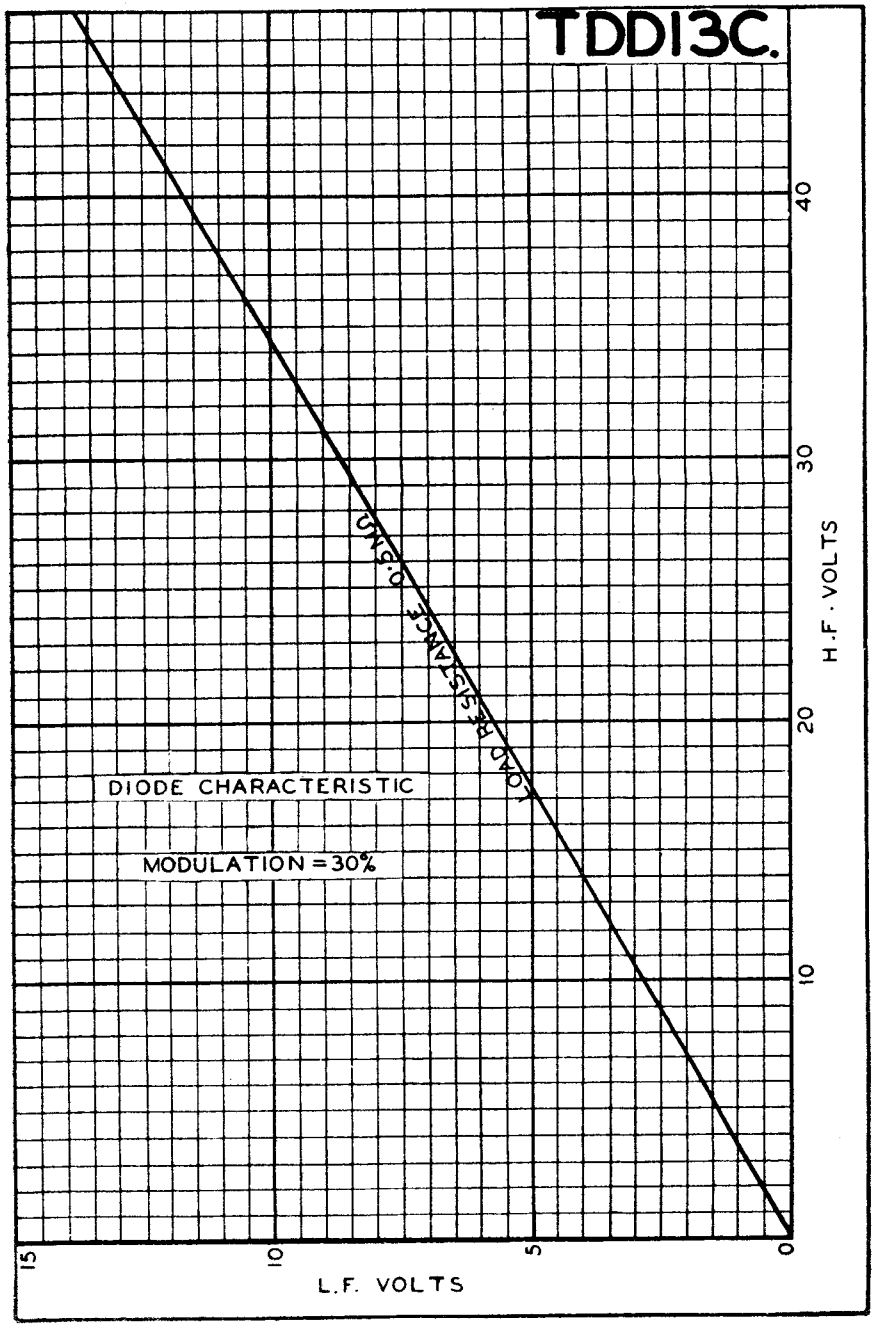
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