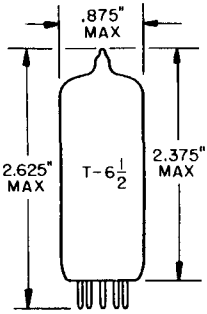
TUNG-SOL

PENTODE

MINIATURE TYPE



GLASS BULB
SMALL BUTTON
9 PIN NOVAL E9-1
OUTLINE DRAWING
JEDEC 6-3

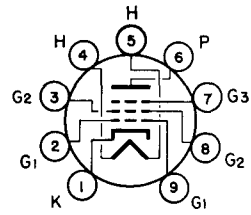
FOR

USE IN VIDEO STAGE

OF TV RECEIVERS

COATED UNIPOTENTIAL CATHODE

ANY MOUNTING POSITION



BOTTOM VIEW
BASING DIAGRAM
JEDEC 9BV

THE 6CL6 IS A POWER PENTODE USING THE 9 PIN MINIATURE CONSTRUCTION. IT IS DESIGNED ESPECIALLY FOR USE IN THE FINAL VIDEO STAGE OF TELEVISION RECEIVERS. FEATURES OF THIS TUBE ARE LOW CAPACITANCES AND HIGH OUTPUT CAPABILITY. IT IS ALSO USEFUL AS A WIDE-BAND AMPLIFIER TUBE IN INDUSTRIAL AND LABORATORY EQUIPMENT.

DIRECT INTERELECTRODE CAPACITANCES

WITHOUT EXTERNAL SHIELD

GRID 1 TO PLATE	0.12	pf
INPUT	11	pf
OUTPUT	5.5	pf

HEATER CHARACTERISTICS AND RATINGS

DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

AVERAGE CHARACTERISTICS	6.3	VOLTS	650	MA.

MAXIMUM HEATER-CATHODE VOLTAGE:		
HEATER NEGATIVE WITH RESPECT TO CATHODE	→100	VOLTS
HEATER POSITIVE WITH RESPECT TO CATHODE	→100	VOLTS

MAXIMUM RATINGS

→ DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

PLATE VOLTAGE	300	VOLTS
GRID 3 VOLTAGE	0	VOLTS
GRID 2 SUPPLY VOLTAGE	300	VOLTS
GRID 2 VOLTAGE	→150	VOLTS

CONTINUED ON FOLLOWING PAGE

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CONTINUED FROM PRECEDING PAGE

MAXIMUM RATINGS - CONT'D.

→ DESIGN CENTER VALUES - SEE EIA STANDARD RS-239

GRID 1 VOLTAGE:		
POSITIVE BIAS VOLTAGE	0	VOLTS
NEGATIVE BIAS VOLTAGE	50	VOLTS
PLATE DISSIPATION	7.5	WATTS
GRID 2 INPUT	1.7	WATTS
BULB TEMPERATURE AT HOTTEST POINT ON BULB SURFACE	200°	C
GRID 1 CIRCUIT RESISTANCE *		
FOR FIXED BIAS OPERATION	0.1	MEGOHM
FOR CATHODE BIAS OPERATION	0.5	MEGOHM

TYPICAL OPERATING CHARACTERISTICS

CLASS A1 AMPLIFIER

PLATE VOLTAGE		250	VOLTS
GRID 3 VOLTAGE - CONNECTED TO CATHODE AT SOCKET			
GRID 2 VOLTAGE		150	VOLTS
GRID 1 VOLTAGE		-3	VOLTS
PEAK AF GRID 1 SIGNAL VOLTAGE		3	VOLTS
ZERO SIGNAL DC PLATE CURRENT		30	MA.
MAXIMUM SIGNAL DC PLATE CURRENT		31	MA.
ZERO SIGNAL DC GRID 2 CURRENT		7	MA.
MAXIMUM SIGNAL DC GRID 2 CURRENT		7.2	MA.
PLATE RESISTANCE	(APPROX.)	0.9 ←	MEGOHMS
TRANSCONDUCTANCE		11,000	μMHOS
LOAD RESISTANCE		7,500	OHMS
TOTAL HARMONIC DISTORTION		8	PERCENT
MAXIMUM SIGNAL POWER OUTPUT		2.8	WATTS
GRID 1 VOLTAGE FOR PLATE CURRENT OF 10 μAMP.	(APPROX.)	-14	VOLTS

4 MC. BANDWIDTH VIDEO AMPLIFIER

PLATE SUPPLY VOLTAGE	300	VOLTS
GRID 3 VOLTAGE - CONNECTED TO CATHODE AT SOCKET		
GRID 2 SUPPLY VOLTAGE	300	VOLTS
GRID 1 BIAS VOLTAGE	-2	VOLTS
PEAK TO PEAK GRID 1 SIGNAL VOLTAGE	3	VOLTS
GRID 2 RESISTOR	24,000	OHMS
GRID 1 RESISTOR	0.1	MEGOHM
LOAD RESISTOR	3,900	OHMS
ZERO SIGNAL PLATE CURRENT	30	MA.
ZERO SIGNAL GRID 2 CURRENT	7.0	MA.
PEAK TO PEAK VOLTAGE OUTPUT	132	VOLTS

→ INDICATES A CHANGE.

* INDICATES AN ADDITION.

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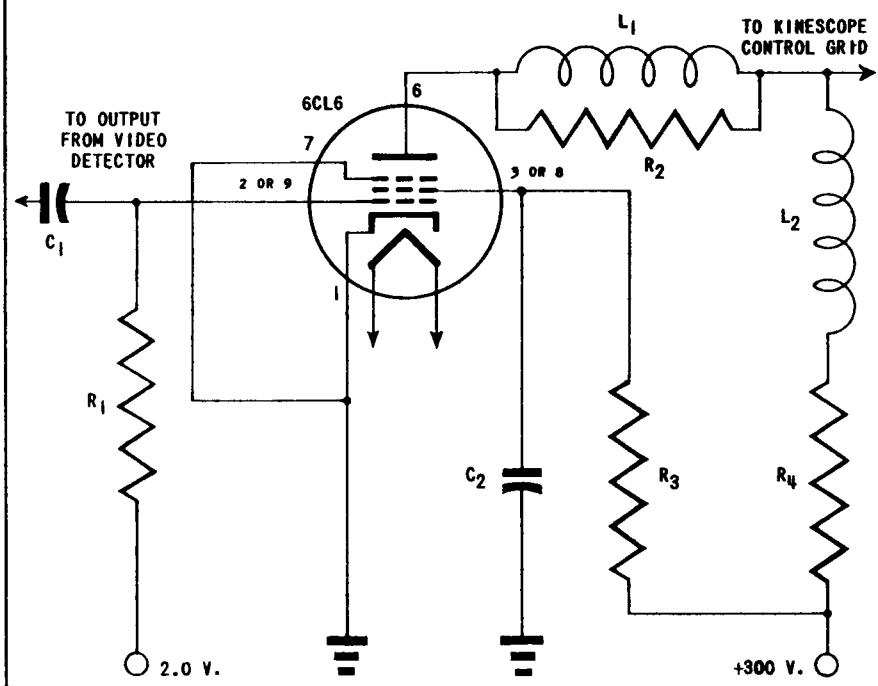

PLATE 3021
SEPT. 1 1952

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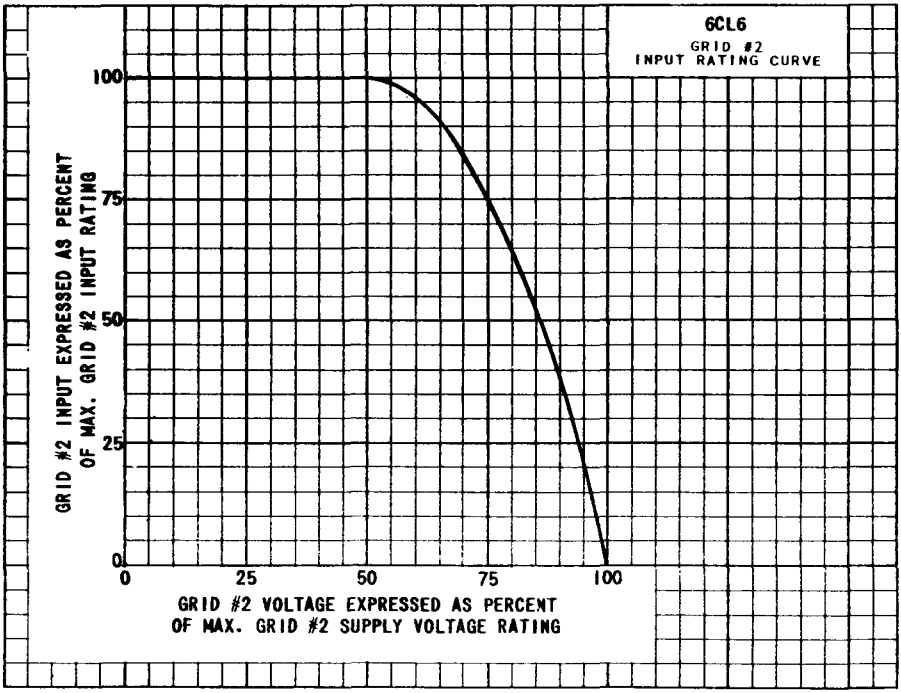
6CL6



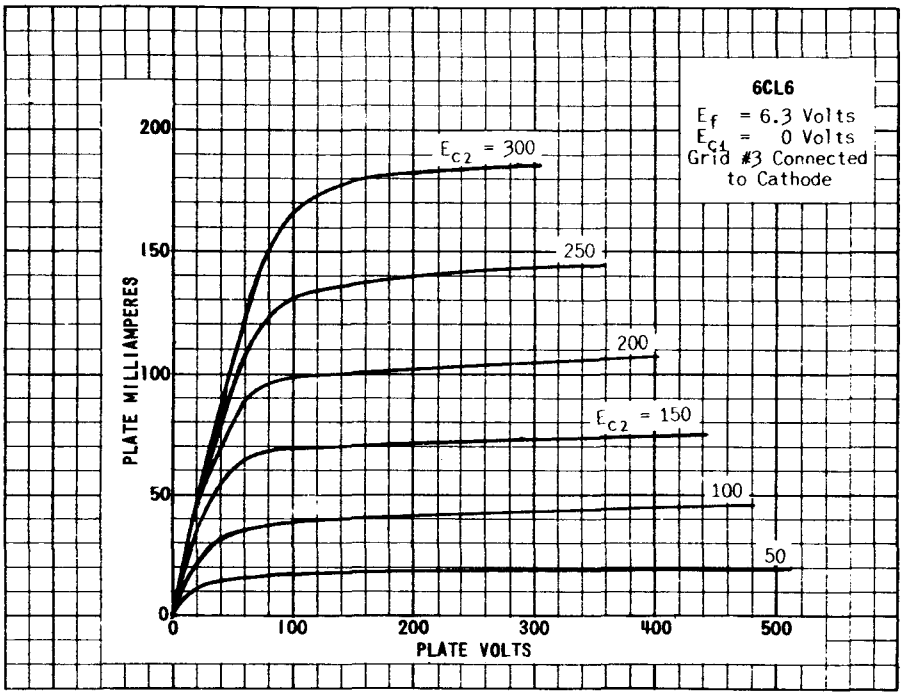


PLATE 3022
SEPT. 1 1952

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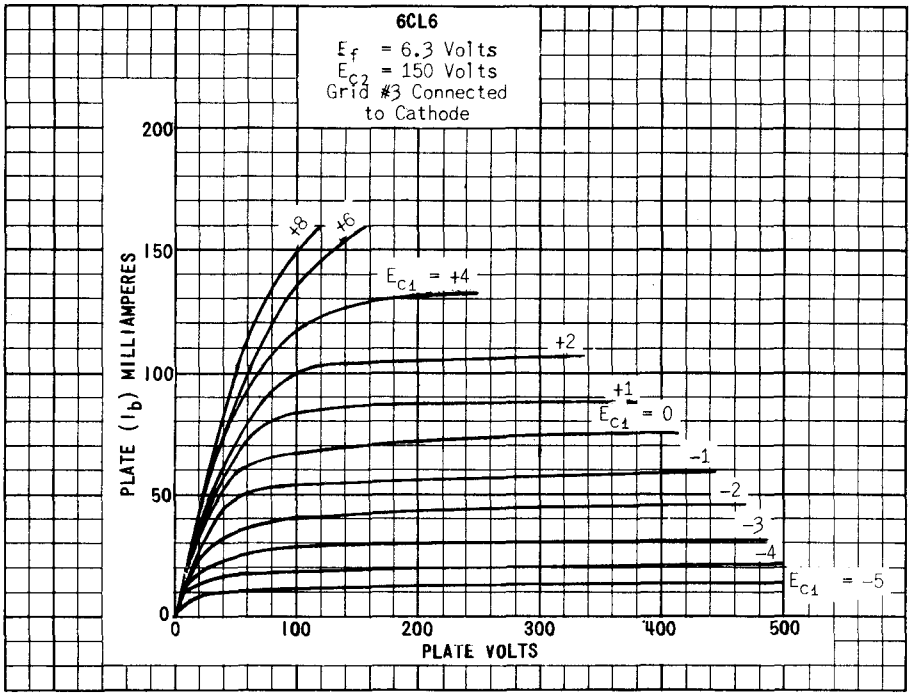

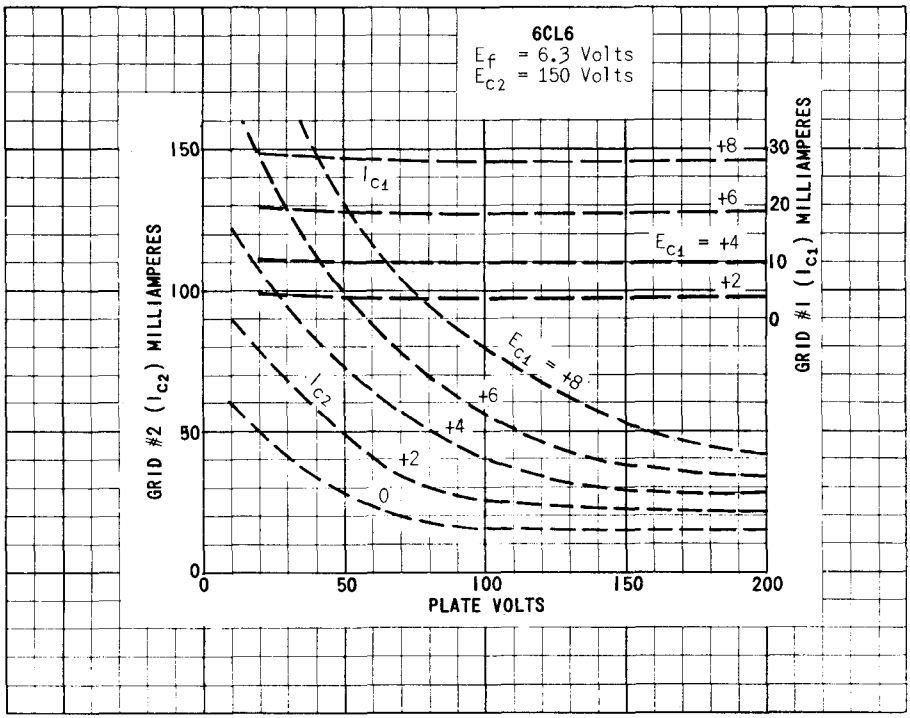

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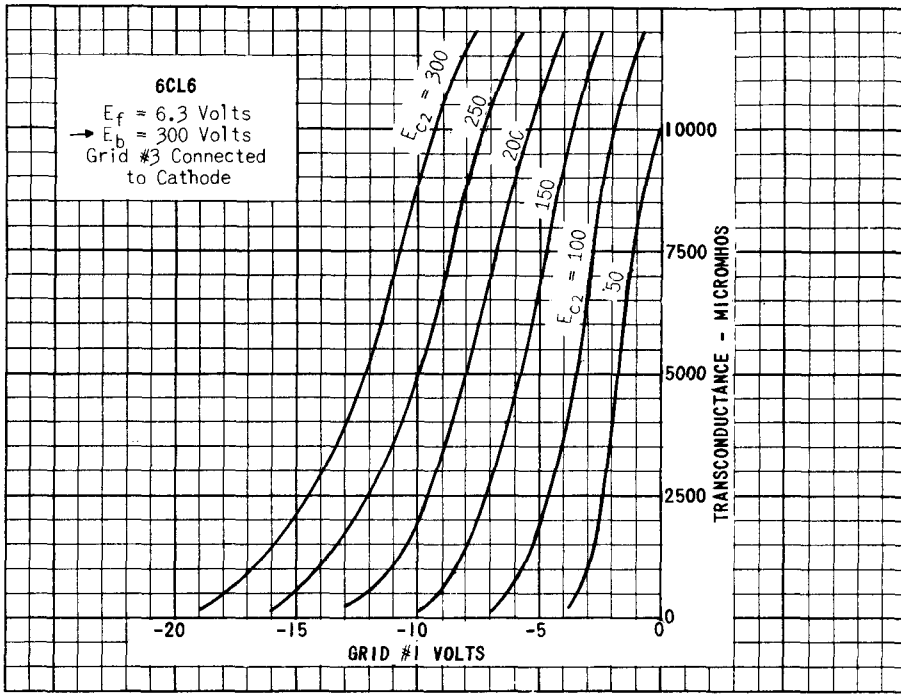
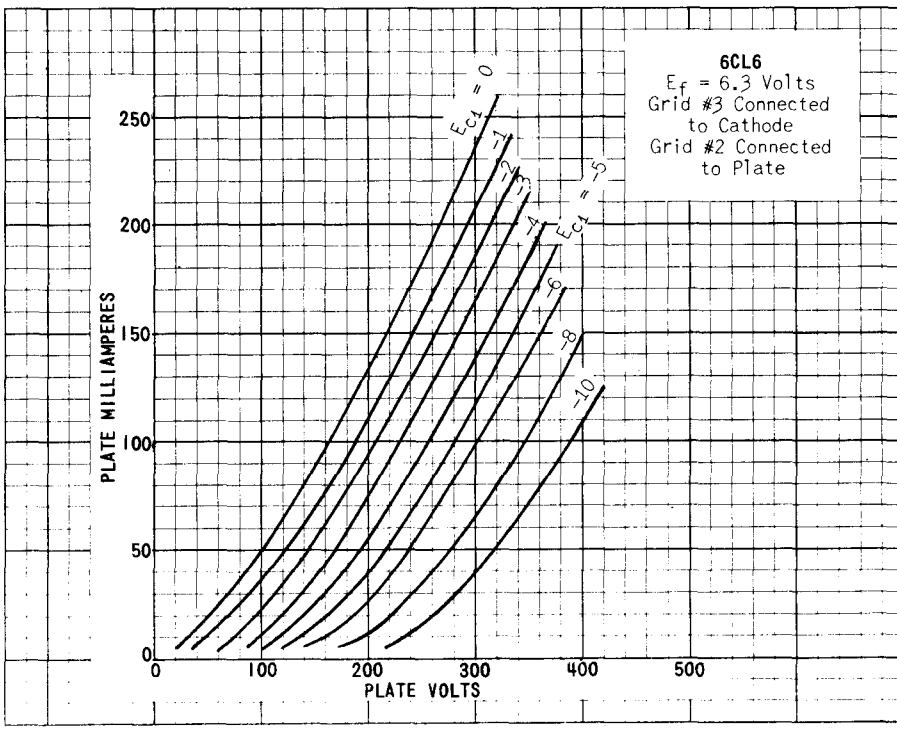
6CL6


6CL6
Ef = 6.3 Volts
Eb = 300 Volts
Grid #3 Connected
to Cathode
Ec2 = 300
250
200
150
Ec2 = 100
50
10000
7500
5000
2500
0
TRANSCONDUCTANCE - MICROMHOS
-20
-15
-10
-5
0
GRID #1 VOLTS


6CL6
Ef = 6.3 Volts
Grid #3 Connected
to Cathode
Grid #2 Connected
to Plate
Ec1 = 0
-1
-2
-3
-4
Ec1 = -5
-6
-8
-10
250
200
150
100
50
0
PLATE MILLIAMPERES
0
100
200
300
400
500
PLATE VOLTS