Rogers Electronic Tubes & Components

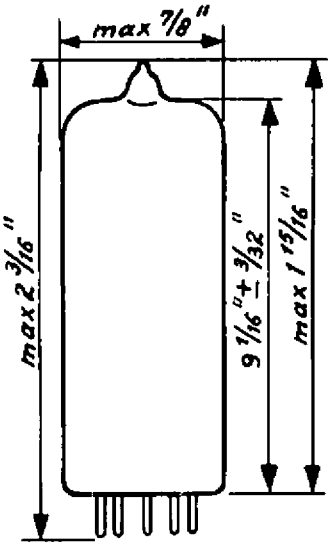
7 DJ 8

Description: Double triode with high transconductance and low noise for use as cascode amplifier in tuners for television receivers

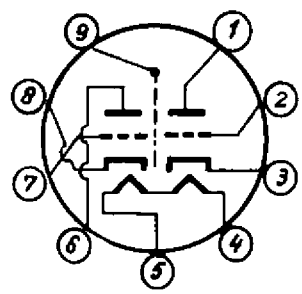
Mechanical data

Cathode	coated, unipotential
Base	E 9-1
Bulb	T 6 1/2
Outline	6-2
Basing	9 DE
Mounting position	any

TUBE OUTLINE



BOTTOM VIEW OF BASE



BASE PIN No.		ELEMENT
1	Plate	Grounded-grid output section
2	Grid	
3	Cathode	
4	Heater	
5	Heater	
6	Plate	Grounded-cathode input section
7	Grid	
8	Cathode	
9	Internal shield	

Heater data

Heater voltage	7 volts
Heater current	300 mamps

Direct interelectrode capacitances

	without external shield	with external shield
Grounded-cathode section		
Grid to all other elements except plate	3.3	3.3 μμF
Plate to all other elements except grid	1.8	2.5 μμF
Plate to grid	1.4	1.4 μμF
Grid to heater	0.13	0.13 μμF

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from JEDEC release #2382, Feb. 9, 1959

Direct interelectrode capacitances (continued)

	without external shield	with external shield	
Grounded-grid section			
Cathode to all other elements except plate	6,0	6,0	µµF
Plate to all other elements except cathode	2,8	3,7	µµF
Plate to grid	1,4	1,4	µµF
Cathode to heater	2,7	2,7	µµF
Plate to cathode	0,18	0,16	µµF
Between grounded-cathode and grounded-grid section			
Plate to plate	max. 0,045	0,015	µµF
Grid (grounded-cathode-section) to plate (grounded-grid-section)	max. 0,005	0,005	µµF

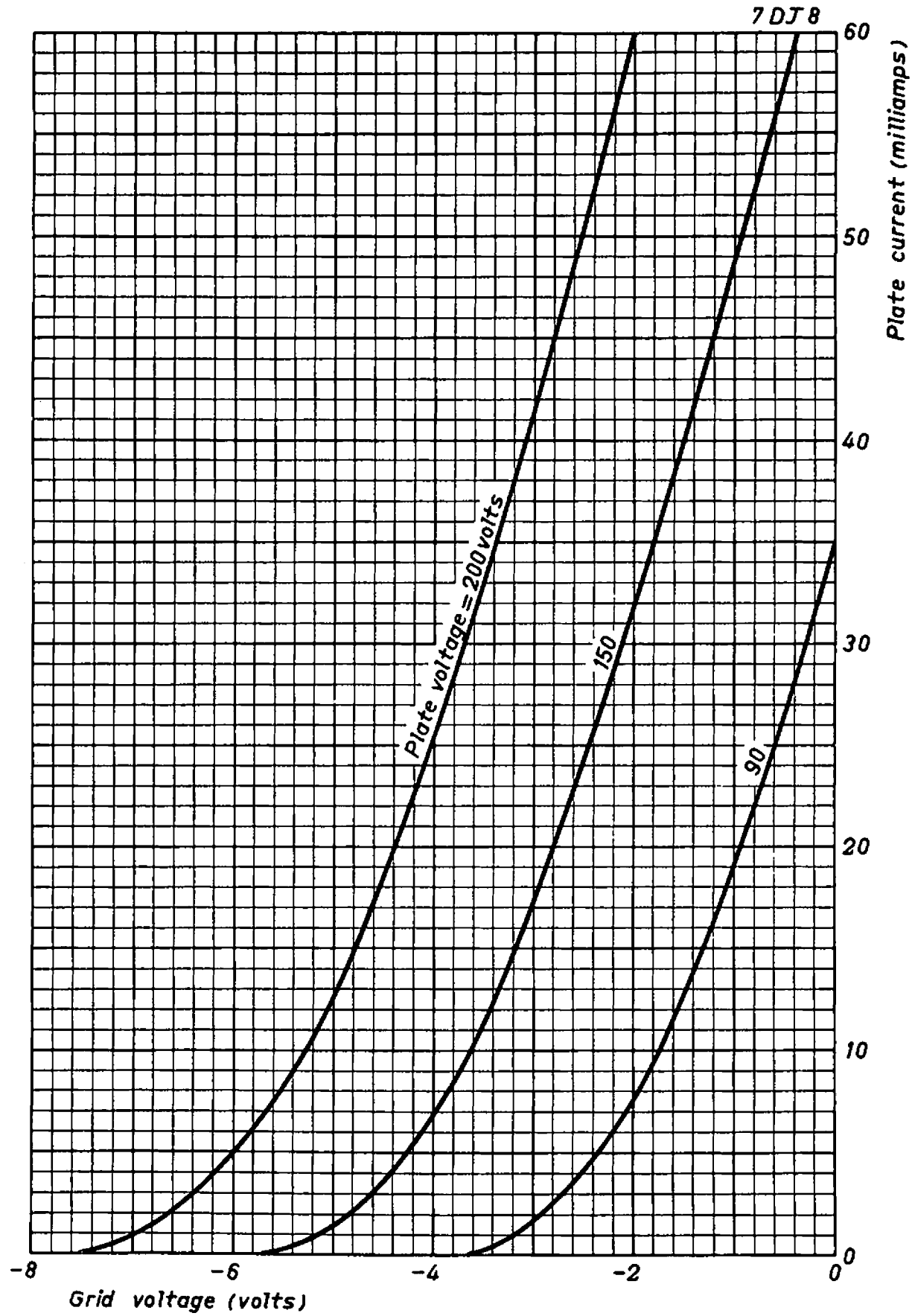
Maximum ratings (each section) (design center values)

Plate voltage (with cold cathode)	550	volts max.
Plate voltage	130	volts max.
Plate dissipation	1,8	watts max.
Cathode current	25	mamps max.
Negative grid voltage	50	volts, max
Grid circuit resistance	1	megohm max
Voltage between cathode and heater (grounded cathode section)	80	volts rms max.
Peakvoltage between cathode and heater (grounded grid section; cathode positive with respect to heater)	180	volts max.
D.C. component of cathode to heater voltage (grounded grid section)	130	volts max.
Circuit resistance between heater and cathode	20.000	ohms max.

Typical characteristics (each section)

Plate voltage	90	volts
Grid bias	-1.3	volts
Plate current	15	mamps
Transconductance	12500	micromhos
Amplification factor	33	
Equivalent noise resistance	300	ohms

Remark: In order not to exceed the maximum permissible plate voltage when the cascode amplifier is controlled, it is necessary to use a voltage divider for the grid of the grounded-grid section.
With grid current biasing for the grounded-cathode section the plate voltage across this section should not exceed 75 volts in the not-controlled condition.


7 DJ 8
Plate current (milliamps)
60
50
40
30
20
10
0
Plate voltage = 200 volts
150
90
-8
-6
-4
-2
0
Grid voltage (volts)

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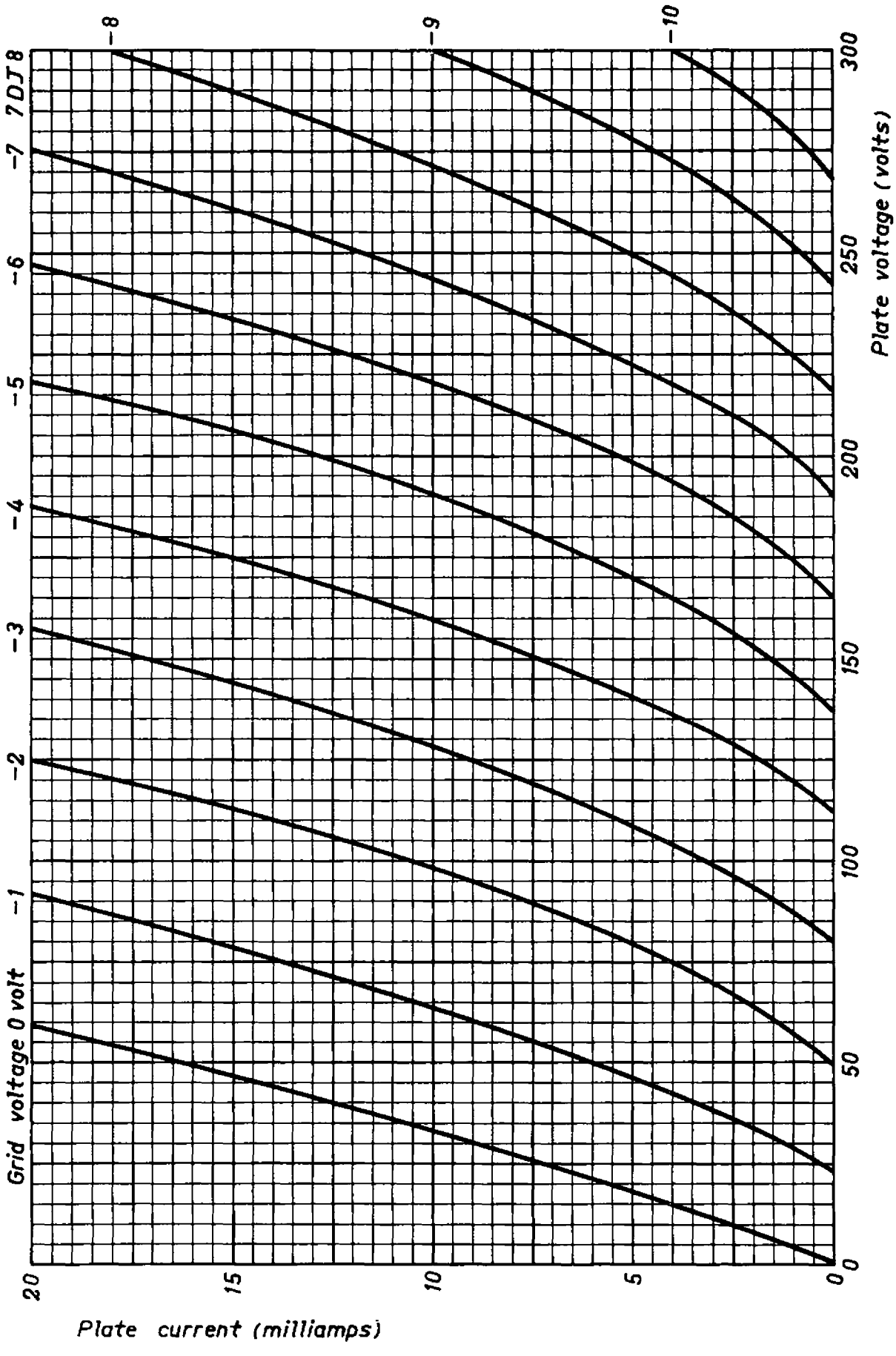
7DJ8
Grid voltage 0 volt
-1
-2
-3
-4
-5
-6
-7
-8
-9
-10
Plate voltage (volts)
300
250
200
150
100
50
0
Plate current (milliamps)
20
15
10
5
0

B