RAYTHEON

TECHNICAL INFORMATION SERVICE

Technical Information

6DJ8
12DJ8

TWIN TRIODE

The 6DJ8 and 12DJ8 are frame grid double triodes of miniature construction with high transconductance and low noise, designed for service in television receiver VHF cascode RF amplifiers, I.F. amplifiers, mixer and phase inverter stages.

ELECTRICAL DATA

HEATER CHARACTERISTICS

	6DJ8	12DJ8	
Heater Voltage	6.3 ±10% □	12.6 ●●	Volts
Heater Current	365 ●	180 ±6% □	Ma
Maximum Heater–Cathode Voltage			
Voltage Between Cathode and Heater (Grounded Cathode Section)		50	Volts rms
Voltage Between Cathode and Heater (Grounded Grid Section)		150	Volts
DC Component of Cathode to Heater Voltage (Grounded Grid Section)		130	Volts

DIRECT INTERELECTRODE CAPACITANCES–NO EXTERNAL SHIELD

Grounded Cathode Section		
Grid to All Other Elements Except Plate	3.3	pf
Plate to All Other Elements Except Grid	1.8	pf
Plate to Grid	1.4	pf
Grid to Heater	0.13	pf
Grounded Grid Section		
Cathode to All Other Elements Except Plate	6.0	pf
Plate to All Other Elements Except Cathode	2.8	pf
Plate to Cathode	0.18	pf
Cathode to Heater	2.7	pf
Plate to Grid	1.4	pf
Between Grounded Cathode and Grounded Grid Sections		
Plate to Plate	Max. 0.045	pf
Grid (Grounded Cathode Section) To Plate (Grounded Grid Section)	Max. 0.005	pf

DESIGN MAXIMUM RATINGS*: (Each Section)

Plate Voltage	140	Volts
Plate Dissipation	2	Watts
Cathode Current	27	Ma
Negative Grid Voltage	50	Volts
Grid Circuit Resistance	1.0	Megohm
Circuit Resistance Between Heater and Cathode	20,000	Ohms

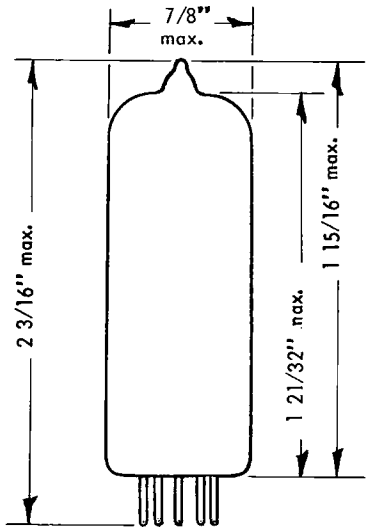
CHARACTERISTICS AND TYPICAL OPERATION (Each Section)

Plate Voltage	90	Volts
Grid Voltage	–1.3	Volts
Plate Current	15	Ma
Transconductance	12,500	μmhos
Amplification Factor	33	
Equivalent Noise Resistance	300	Ohms

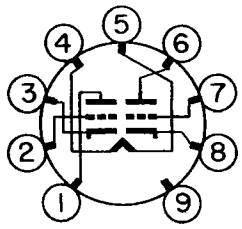
MECHANICAL DATA

ENVELOPE T–6½
BASE . . . . . Miniature Button E9–1 9 Pin
CATHODE . . Coated Unipotential
BASING 9AJ
MOUNTING POSITION. . . . Any

PHYSICAL DIMENSIONS



BASING



BOTTOM VIEW

TERMINAL CONNECTIONS:

Pin 1 Plate	Grounded Grid Output Section
Pin 2 Grid	
Pin 3 Cathode	
Pin 4 Heater	
Pin 5 Heater	
Pin 6 Plate	Grounded Cathode Input Section
Pin 7 Grid	
Pin 8 Cathode	
Pin 9 Internal Shield	

NOTE: 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 be more than 75 volts in the not–controlled condition.

□ The equipment designer shall design equipment so that the heater voltage for the 6DJ8 and the heater current for the 12DJ8 are centered at the specified bogey value with heater supply variations restricted to maintain heater voltage (or current) within the specified tolerance.

● Heater current at bogie heater voltage.

●● Heater voltage at bogie heater current.

* Design–Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable servicability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design – maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply–voltage variations, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

TWIN TRIODE

PLATE CHARACTERISTICS

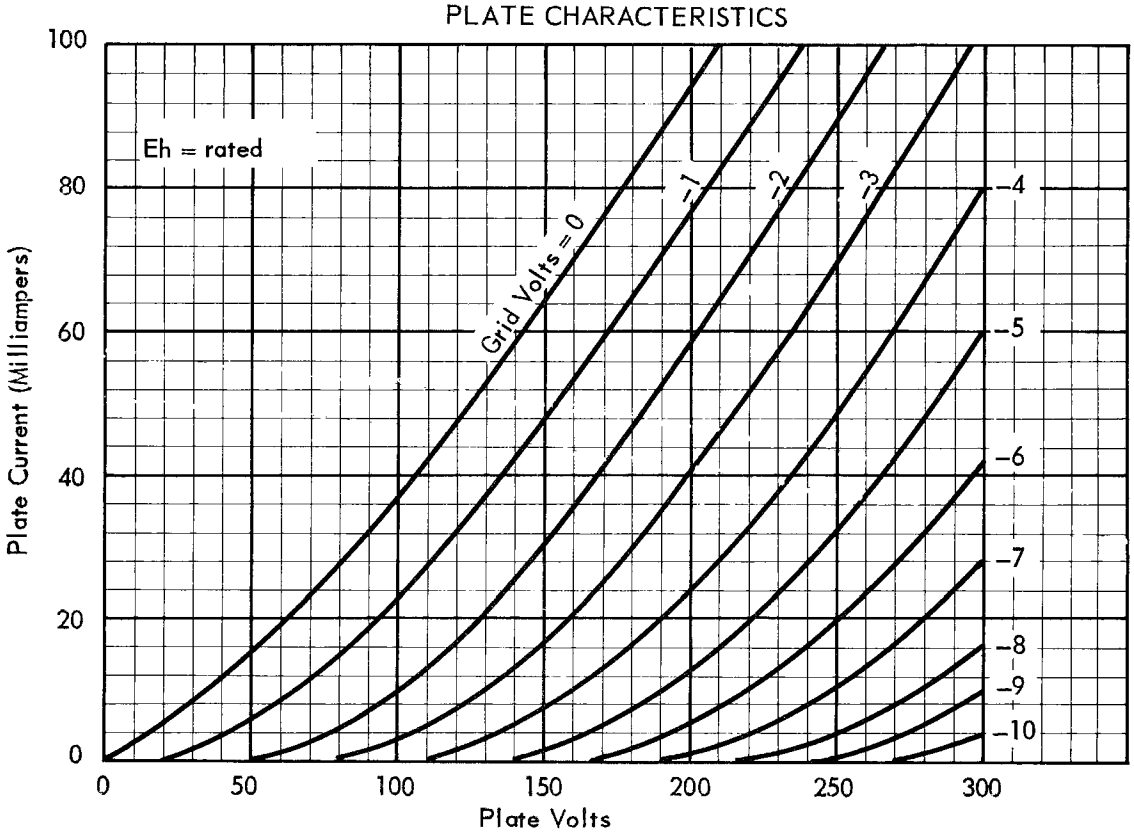


PLATE CHARACTERISTICS