12DB5

BEAM POWER TUBE

9-PIN MINIATURE TYPE

Intended for use in equipment having series heater-string arrangement

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	12.6	volts
Current	0.6 ± 6%	amp
Warm-up time (Average)	11	sec
Direct Interelectrode Capacitances (Approx.):[o]		
Grid No.1 to plate	0.2	μμf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	13	μμf
Plate to cathode & grid No.3, grid No.2, and heater	8	μμf

Mechanical:

Operating Position	Any
Maximum Overall Length	2-3/4"
Maximum Seated Length	2-1/2"
Length, Base Seat to Bulb Top (Excluding tip)	2-1/8" ± 3/32"
Diameter	0.750" to 0.875"
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9GR

Pin 1 - Grid No.2
Pin 2 - Cathode, Grid No.3
Pin 3 - Grid No.1
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Grid No.1

Pin 7 - Cathode, Grid No.3
Pin 8 - Internal Connection — Do Not Use
Pin 9 - Plate

AMPLIFIER — Class A_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	300	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	150	max.	volts
GRID-No.2 INPUT	1.25	max.	watts
PLATE DISSIPATION	10	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200[Δ]	max.	volts

Typical Operation and Characteristics:

Plate Supply Voltage	110	200	volts
Grid-No.2 Supply Voltage	110	125	volts
Grid-No.1 (Control-grid) Voltage	-7.5	-	volts
Cathode Resistor	-	180	ohms

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Peak AF Grid-No.1 Voltage	7.5	8.5	volts
Zero-Signal Plate Current	49	46	ma
Max.-Signal Plate Current	50	47	ma
Zero-Signal Grid-No.2 Current	4	2.2	ma
Max.-Signal Grid-No.2 Current	10	8.5	ma
Plate Resistance (Approx.)	13000	28000	ohms
Transconductance	8000	8000	μmhos
Load Resistance	2000	4000	ohms
Total Harmonic Distortion	10	10	%
Max.-Signal Power Output	2.1	3.8	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	2.2 max.	megohms

VERTICAL-DEFLECTION AMPLIFIER

Maximum Ratings, *Design-Center Values Except as Noted:*

For operation in a 525-line, 30-frame system□

DC PLATE VOLTAGE	300	max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE (Absolute maximum)#	2000■	max.	volts
DC GRID-No.2 (SCREEN-GRID) VOLTAGE	150	max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 (CONTROL-GRID) VOLTAGE	250	max.	volts
CATHODE CURRENT:			
Peak	200	max.	ma
Average	55	max.	ma
GRID-No.2 INPUT	1.25	max.	watts
PLATE DISSIPATION	10	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200▲	max.	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:			
For fixed-bias operation	0.1	max.	megohm
For cathode-bias operation	2.2	max.	megohms

o Without external shield.

▲ The dc component must not exceed 100 volts.

□ As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

■ Under no circumstances should this absolute value be exceeded.

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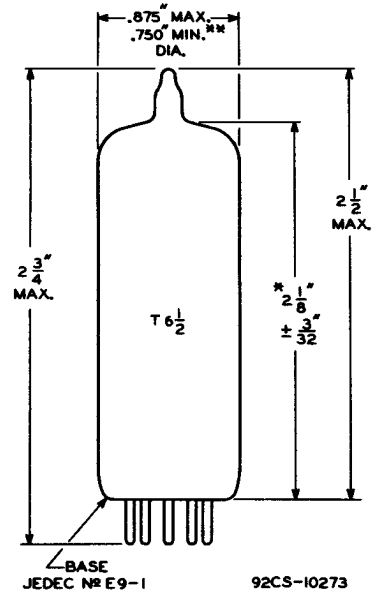

* Measured from base seat to bulb-top line as determined by ring gauge of 7/16" inside diameter.

** Applies in zone starting 0.375" from seat.

Beam Power Tube

9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

The 12DB5 is the same as the 6DB5 except for the following items:

Heater, for Unipotential Cathode:		
Voltage (AC or DC)	12.6	volts
Current	0.6 ± 6%	amp
Warm-up time (Average)	11	sec