



12DB5

BEAM POWER TUBE

9-PIN MINIATURE TYPE

*Intended for use in equipment having
series heater-string arrangement*

12DB5

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

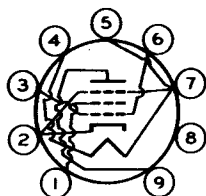
Direct Interelectrode Capacitances
(Approx.):^o

Grid No.1 to plate	0.2	μmf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	13	μmf
Plate to cathode & grid No.3, grid No.2, and heater	8	μmf

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 Con-
nection —
Do Not Use
Pin 9-Plate

AMPLIFIER — Class A₁

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 [▲] 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	μ mhos
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

□ 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.

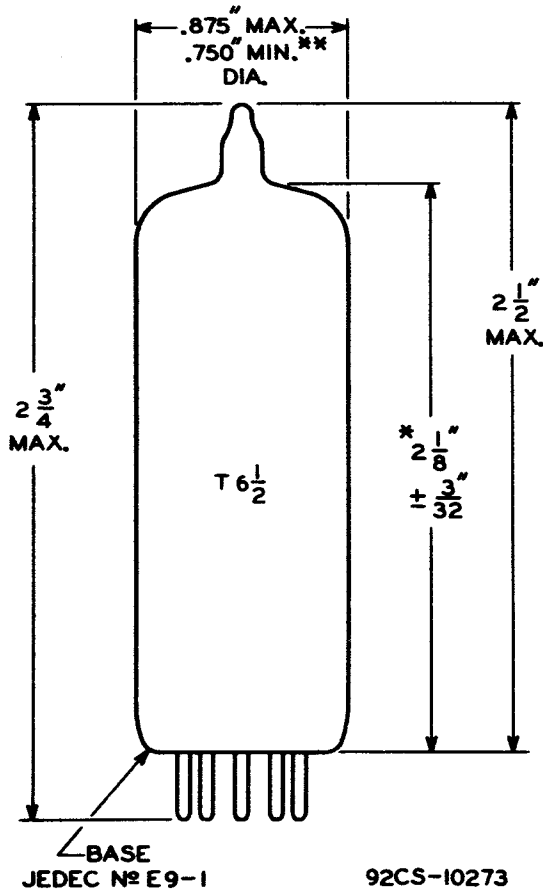
■ Under no circumstances should this absolute value be exceeded.



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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.