October 29, 1956

RF and IF Pentode Type 12DK5

The 12DK5 is a 9-pin miniature pentode designed for service as an intermediate frequency amplifier in automobile receivers with a transistor output stage whose driving power is taken from the diode detector. The 12DK5 may also be used as a radio frequency amplifier since it features high transconductance at low plate and grid 2 voltages and low grid 1-plate capacity. The cutoff characteristics of the 12DK5 are especially suitable for avc operation.

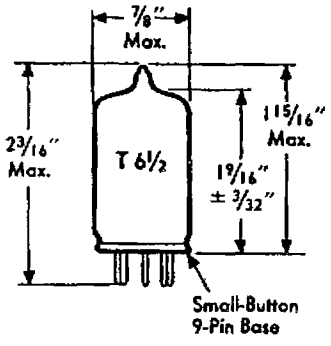
GENERAL DATA

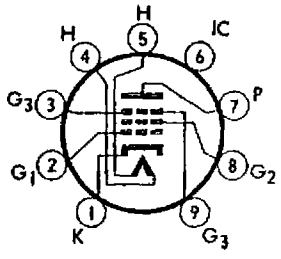
Electrical:

Cathode	Coated Unipotential	
Heater:		
Voltage□	12.6	Volts
Current	0.3	Ampere
Direct Interelectrode Capacitances (shielded):#		
Grid to Plate	0.045	uuf
Input	9.5	uuf
Output	2.65	uuf

Mechanical:

Bulb	T-6-1/2
Base	Miniature 9-pin (JETEC E9-1)
Basing	9GT
Mounting Position	Any





from JETEC release #1776, Nov. 12, 1956

MAXIMUM RATINGS

Design-Maximum Values○

Plate	16 max.	Volts
Screen Voltage.	16 max.	Volts
Heater-Cathode Voltage.	16 max.	Volts
Grid 1 Voltage		
Positive.	0 max.	Megohm

AMPLIFIER - CLASS A_1

Characteristics and Typical Operation

Plate Voltage.	12.6	Volts
Grid 3 (suppressor) Voltage.	0	Volts
Grid 2 (Screen) Voltage.	12.6	Volts
Plate Current.	2.0	Ma
Grid 2 Current	0.65	Ma
Transconductance	3300	umhos
Plate Resistance	100,000	Ohms
Grid Leak Resistor (Bypassed). . . .	2.2	Megohms
Grid Voltage for I_b 10 ua.	2.5	Volts

With JETEC Shield #315 connected to ground

○ Design-Maximum Ratings are the limiting values expressed with respect to bogie tubes at which satisfactory tube life can be expected to occur in the types of service for which the tube is rated. Therefore, the equipment designer must establish the circuit design so that initially and throughout equipment life no design-maximum value is exceeded with a bogie tube under the worst probable operating conditions with respect to supply-voltage variation, equipment control adjustment, load variation and environmental conditions.

□ When used in automative service from a 12 volt source under no circumstances should the heater voltage be less than 10.0 volts or more than 15.9 volts. These extreme variations in heater voltage may be tolerated for short periods; however operation at or near these absolute limits in heater voltage necessarily involves sacrifice in performance at low heater voltage and in life expectancy at high heater voltage. Equipment reliability can be significantly increased with improved supply voltage regulation.