

GENERAL DESCRIPTION

May 1, 1939

APPLICATION:

RMA Release # 177

The Hytron Bantam 12SK7GT is a single ended cathode type super control pentode primarily designed for amplifier service in radio or intermediate frequency circuits. In properly designed superheterodyne circuits it may also be used as a mixer tube. An internal shield is brought out and connected to the #1 pin to facilitate perfect shielding. Further, through unique geometric design the control grid is isolated and shielded from all other elements of the tube and an interpin base shield which is connected to pin #1 in the base effectively shields the base pins from each other.

The Hytron Bantam 12SK7GT is a glass tube equipped with a small octal base and metal base shell ring. It is interchangeable with its metal equivalent type 12SK7 and under normal operating conditions will require no additional shielding other than that afforded by the tube design itself. The 12SK7GT is similar in characteristics to the 6SK7GT in all but filament characteristics and was designed primarily for use in transformerless compact receivers.

PHYSICAL CHARACTERISTICS: BULB T-9D

RATING AND CHARACTERISTICS

Heater Voltage (A.C. or D.C.)	12.6	volts
Heater Current	0.15	ampere
Direct Interelectrode Capacitances: ^o		
Grid to Plate	0.005 max.	uuf
Input	6.3	uuf
Output	10.0	uuf
Maximum Overall Length		3-5/16"
Maximum Diameter		1-5/16"
Base		Small wafer octal 8 pin

AMPLIFIER - CLASS A

Operating Conditions and Characteristics:

Heater Voltage*	12.6	12.6	volts
Plate Voltage	100	250 max.	volts
Screen Voltage	100 max.	100 max.	volts
Grid Voltage	-3	-3	volts
Suppressor	Connected to cathode at socket		
Plate Current	2.9	3.0	ma.
Screen Current	0.9	0.8	ma.
Amplification Factor (Approx.)	1100	2500	
Plate Resistance (Approx.)	0.7	1.5	megohms
Transconductance	1575	1650	micromhos

PIN CONNECTIONS

Pin 1 - Shell	Pin 5 - Cathode
Pin 2 - Heater	Pin 6 - Screen
Pin 3 - Suppressor	Pin 7 - Heater
Pin 4 - Grid	Pin 8 - Plate
(Pin numbers are according to RMA system)	

(cont'd)

(cont'd)

MOUNTING POSITION

Vertical or Horizontal - No restrictions

OUTLINE AND SOCKET CONNECTIONS (8N)

Same as for 6SK7

- o With shell connected to cathode.
- * In circuits where the cathode is not directly returned to ground, the potential difference between heater and cathode should be kept as low as possible.

JETEC DATA
 JOINT ELECTRON TUBE ENGINEERING COUNCIL
 COMMITTEE ON RECEIVING TUBES

177A
 J5-12SK7GT
 Dec. 15, 1950

JETEC TYPE 12SK7GT

PENTODE

MECHANICAL DATA

Coated unipotential cathode
 Outline drawing 9-12 Bulb T-9
 Base B8-26 small wafer octal 8-pin, metal sleeve
 Maximum diameter 1-5/16"
 Maximum overall length 3-5/16"
 Maximum seated height 2-3/4"
 Pin connections Basing 8N
 Pin 1 - Base sleeve Pin 5 - Cathode, internal shield
 Pin 2 - Heater Pin 6 - Grid #2
 Pin 3 - Grid #3 Pin 7 - Heater
 Pin 4 - Grid #1 Pin 8 - Plate
 Mounting position any

ELECTRICAL DATA

Direct Interelectrode Capacitances*

Grid to plate: (g1 to p) max. 0.005 μ f
 Input: g1 to (h+k+g2+g3+b.s.) 6.5 μ f
 Output: p to (h+k+g2+g3+b.s.) 7.5 μ f

*External shield #308 connected to pin #5.

Ratings

Heater voltage (ac or dc) 12.6 volts
 Maximum heater-cathode voltage 90 volts
 Maximum plate voltage 300 volts
 Maximum grid #2 supply voltage 300 volts
 Maximum grid #2 voltage See J5-C4
 Maximum positive dc grid #1 voltage 0 volts
 Maximum plate dissipation 4.0 watts
 Maximum grid #2 dissipation 0.4 watt

Typical Operating Conditions and Characteristics, Class A1 Amplifier

Heater voltage	12.6	12.6	volts
Heater current	150	150	ma
Plate voltage	100	250	volts
Grid #2 voltage	100	100	volts
Grid #1 voltage	-1	-3	volts
Grid #3 voltage			Pin 3 connected to pin 5 at socket
Plate current	13	9.2	ma
Grid #2 current	4.0	2.6	ma
Plate resistance (approx.)	0.12	0.8	megohm
Transconductance	2350	2000	μ mhos
Grid #1 voltage (approx.) for $G_m = 10 \mu$ mhos	-35	-35	volts

Refer to "Interpretation of Receiving Tube Ratings"