

**S6F12****SPECIAL QUALITY H.F. PENTODE**

Indirectly heated—for parallel operation

**TENTATIVE**GENERAL

The S6F12 is a Special Quality H.F. Pentode having characteristics similar to the 6F12, and is intended for use in AC or DC powered equipment having parallel connected heater chains. A special shock resistant construction is employed which gives increased reliability and life expectancy.

Quality tests are performed on electrical characteristics, vibration noise, base strain, glass strain, electrode resonance, vibration fatigue, shock resistance, heater cycling, stability and life.

The characteristic curves of the S6F12 are similar to those of the 6F12.

RATING

Heater Voltage	(volts)	$V_h$	6.3
Heater Current	(amps)	$I_h$	0.3
Maximum Anode Voltage	(volts)	$V_a(\max)$	300
Maximum Screen Voltage	(volts)	$V_{g2}(\max)$	300
Maximum Anode Dissipation	(watts)	$P_a(\max)$	3.0
Maximum Screen Dissipation	(watts)	$P_{g2}(\max)$	0.9
Maximum Heater to Cathode Voltage	(volts DC)	$V_{h-k}(\max)$	150
Maximum Grid 1 to Cathode Resistance (cathode bias)	( $M\Omega$ )	$R_{g1-k}(\max)$	0.5*
Mutual Conductance	(mA/V)	$g_m$	7.5**
Inner Mu		$\mu_{g1-g2}$	75**
Maximum Shock (short duration)	(g)		500
Maximum Acceleration (continuous operation)	(g)		2.5
Maximum Bulb Temperature ( $^{\circ}C$ )			200

\* Maximum value for fixed bias operation = 100k $\Omega$ .

\*\*  $V_a = V_{g2} = 250$  v ;  $I_a = 10$  mA ;  $I_{g2} = 2.5$  mA ;  $V_{g1} = -2$  v.

All maximum ratings are Absolute Values not Design Centres.

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**TENTATIVE**INTER-ELECTRODE CAPACITANCES (pF)

Anode/Grid 1	$C_{a-g1}$	0.008†
Anode-Earth	$C_{out}$	3.25††
Grid 1/Earth	$C_{in}$	7.6 ††

† Total capacity including a Benjamin B7G holder type 75/833 and cylindrical screen can 75/832.

†† Inter-electrode capacity with holder capacity balanced out but with cylindrical screen can.

"Earth" denotes the remaining earthy potential electrodes, heater and shields connected to cathode.

DIMENSIONS

Maximum Overall Length	(mm)	54.5
Maximum Diameter	(mm)	19
Maximum Seated Height	(mm)	47.5
Approximate Nett Weight	(ozs)	$\frac{1}{4}$
Approximate Packed Weight	(ozs.)	$\frac{1}{2}$

MOUNTING POSITION—Unrestricted.

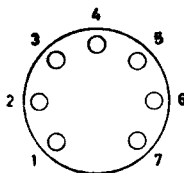
TYPICAL OPERATION

Anode Voltage	(volts)	$V_a$	250
Screen Voltage	(volts)	$V_{g2}$	250
Grid Bias Voltage	(volts)	$V_{g1}$	-2
Anode Current	(mA)	$I_a$	10
Screen Current	(mA)	$I_{g2}$	2.5

BULB—Clear.

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BASE—B7G



Viewed from free end of pins.

CONNECTIONS

Pin 1	Control Grid	<b>g1</b>
Pin 2	Cathode	<b>k</b>
Pin 3	Heater	<b>h</b>
Pin 4	Heater	<b>h</b>
Pin 5	Anode	<b>a</b>
Pin 6	Suppressor Grid	<b>g3</b>
Pin 7	Screen Grid	<b>g2</b>