

6BM8/ECL82

High-Mu Triode—Power Pentode

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC)	6.3 ± 0.6	volts
Current at heater volts = 6.3	0.780	amp
Peak heater-cathode voltage.	100	volts

Direct Interelectrode Capacitances:

Triode Unit:

Grid to plate.	4.0	pf
Input: G_T to (K_T , H).	2.7	pf
Output: P_T to (K_T , H).	4.0	pf
Grid to heater.	0.1 max.	pf

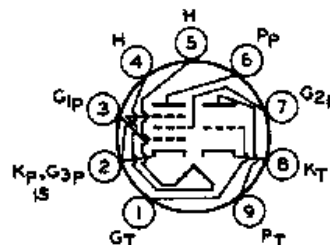
Pentode Unit:

Grid No.1 to plate	0.3 max.	pf
Input: G_{1P} to ($K_P + G_{3P} + IS, G_{2P}, H$)	9.3	pf
Output: P_P to ($K_P + G_{3P} + IS, G_{2P}, H$)	8.0	pf
Grid-No.1 to heater.	0.3 max.	pf
Triode plate to pentode grid No.1.	0.02 max.	pf
Triode grid to pentode plate	0.02 max.	pf
Triode grid to pentode grid No.1	0.025 max.	pf
Triode plate to pentode plate.	0.25 max.	pf

Mechanical:

Operating Position	Any
Type of Cathodes	Coated Unipotential
Maximum Overall Length	3-1/16"
Maximum Seated Length.	2-13/16"
Length, Base Seat to Bulb Top (Excluding tip).	2-7/16" ± 3/32"
Diameter	0.750" to 0.875"
Dimensional Outline (JEDEC No.6-4)	See <i>General Section</i>
Bulb	T6-1/2
Base	Small-Button Noval 9-Pin (JEDEC No.E9-1)
Basing Designation for BOTTOM VIEW	9EX

- Pin 1 - Triode Grid
- Pin 2 - Pentode Cathode,
Grid No.3, Internal
Shield
- Pin 3 - Pentode Grid No.1
- Pin 4 - Heater
- Pin 5 - Heater
- Pin 6 - Pentode Plate
- Pin 7 - Pentode
Grid No.2
- Pin 8 - Triode Cathode
- Pin 9 - Triode Plate



6BM8/ECL82

CLASS A₁ AMPLIFIER

Characteristics:

	<i>Triode</i>	<i>Pentode</i>	
	<i>Unit</i>	<i>Unit</i>	
Plate Voltage.	100	200	volts
Grid-No.2 Voltage.	-	200	volts
Grid-No.1 Voltage.	0	-16	volts
Grid-No.1 Voltage (RMS).	-	6.6	volts
Amplification Factor.	70	9.5 ^a	
Plate Resistance (Approx.)	-	20000	ohms
Transconductance	2500	6400	μmhos
Plate Current.	3.5	35 ^b	ma
Zero-Signal Grid-No.2 Current.	-	7	ma
Load Resistance.	-	5600	ohms
Total Harmonic Distortion.	-	10	%
Max.-Signal Power Output.	-	3.5	watts

Maximum Ratings, Design-Center Values:

Plate Supply Voltage	550	900	volts
Plate Voltage.	300	600	volts
Grid-No.2 Supply Voltage	-	550	volts
Grid-No.2 Voltage.	-	300	volts
Grid-No.2 Input.	-	1.8	watts
Plate Dissipation.	1	^c	watts
Average Cathode Current.	15	50	ma

Maximum Circuit Values:

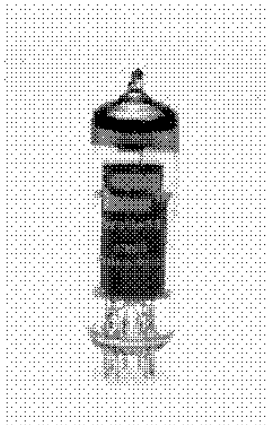
Grid-No.1-Circuit Resistance:

For fixed-bias operation	1	1	megohm
For cathode-bias operation	2	2	megohms
Between heater and cathode	0.02	0.02	megohm

^a Grid No.2 to grid No.1.

^b Zero-signal plate current.

^c At plate voltage less than 250 volts, maximum plate dissipation is 7 watts;
at plate voltage greater than 250 volts, maximum plate dissipation is 5 watts.



Svetlana 6BM8

High Performance Audio

Dual Package, Triode and Pentode

The Svetlana™ 6BM8 is a single glass envelope containing both a power pentode and triode. It has a pentode plate dissipation rating of 7 Watts with convection cooling. A single 6BM8 may be used as an economical low power mono block amplifier or a pair of 6BM8's, in ultra linear configuration are an excellent choice for more power. The 6BM8 is also a great choice as a driver for higher power tubes, such as the Svetlana SV811 and SV572 series triodes. It has an indirectly-heated oxide cathode, which may be DC operated for the absolute best hum/noise performance.

Close manufacturing specification tolerances and improved processing provide enhanced reliability and superior sonic performance. The high sensitivity of Svetlana 6BM8's is an economical method to achieve high quality sound with a minimum of components.

The Svetlana 6BM8 is manufactured in the Svetlana factory in Russia, and is designed to be a direct replacement for any 6BM8 or ECL82.

General Characteristics

Electrical			
Heater:	Min.	Nom.	Max.
Voltage (AC or DC)	5.7	6.3	6.9 V
Current	0.78		A
Cathode:	Oxide-coated, unipotential		
Cathode-to-heater potential, max.			100 V
Direct interelectrode capacitances, max.*	Triode	Pentode	
Grid no. 1 to cathode	2.7	9.3	pF
Plate to cathode	4	8	pF
Grid no.1 to plate	4	0.3	pF

Mechanical

Operating Position	Any	
Base	9-pin miniature	
Socket	Svetlana SK-9A or similar	
Basing diagram	JEDEC 9EX	
Maximum dimensions:		
Height	78 mm (3.07 in.)	
Seated height	71 mm (2.80 in.)	
Diameter	22.2 mm (0.87 in.)	
Cooling	Convection	
Approximate net weight	20 g (0.7 oz.)	

*Without external shielding, nominal values

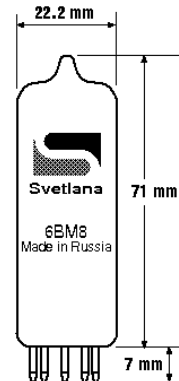
Maximum Ratings		
DC plate voltage	300	600** V
Cathode current	15	50 mA
Grid no.2 voltage	—	300 V
Plate resistance	—	20,000 Ohms
Plate dissipation	1	7 W

**Maximum peak positive pulse voltage 2500V

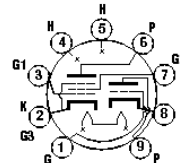
AF Power Amplifier

Average ratings		
DC plate voltage	Triode	Pentode
DC plate voltage	300	300 V
Grid no.2 DC (screen) voltage	—	200 V
Grid no.1 (control) voltage	-1.3	-24 V
DC plate current	1.1	40 mA
Grid no.2 DC (screen) current	—	8 mA
Amplification Factor	70	9.5 μ
Transconductance	2500	6400 μS
Plate load	150,000 Ohms	7000 Ohms
Output power	1.8 W	

Outline Drawing
6BM8 Triode and Pentode



Bottom View
9-pin Miniature Base Connections



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