19KG8

TRIODE-PENTODE

The 19KG8 is a miniature tube containing a sharp-cutoff pentode and a medium-mu triode. The tube is intended primarily for service as a combined triode oscillator and pentode mixer.

GENERAL

Electrical

Cathode - Coated Unipotential

Heater Characteristics and Ratings		
Heater Voltage, AC or DC*	18.9	Volts
Heater Current+	0.15±0.01	Amperes
Direct Interelectrode Capacitances‡		
Pentode Section		
Grid-Number 1 to Plate, maximum: (g1 to p)	0.01	pf
Input: Pg1 to (h + Pk + Pg2 + Pg3 + i.s.)	5.5	pf
Output: Pp to (h + Pk + Pg2 + Pg3 + i.s.)	3.4	pf
Triode Section		
Grid to Plate: (g to p)	1.7	pf
Input: g to (h + Tk + Pk + Pg3 + i.s.)	3.2	pf
Output: p to (h + Tk + Pk + Pg3 + i.s.)	2.2	pf

Mechanical

Mounting Position - Any
Envelope - T-6 1/2, Glass
Base - E9-1, Small Button 9-Pin
Outline Drawing - EIA 6-2

Maximum Diameter	7/8	Inches
Maximum Over-all Length	2 3/16	Inches
Maximum Seated Height	1 15/16	Inches

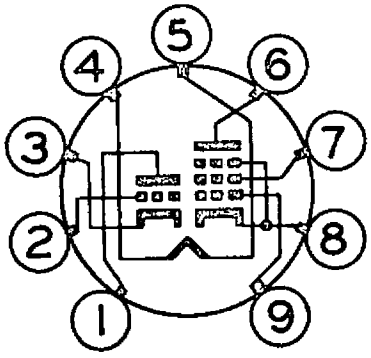
ETR-2186

from JEDEC release #3899, Sept. 24, 1962

TERMINAL CONNECTIONS

Pin 1 - Triode Plate
Pin 2 - Triode Grid
Pin 3 - Triode Cathode
Pin 4 - Heater
Pin 5 - Heater
Pin 6 - Pentode Plate
Pin 7 - Pentode Grid Number 2 (Screen)
Pin 8 - Pentode Cathode, Grid Number 3, and Internal Shield
Pin 9 - Pentode Grid Number 1

BASING DIAGRAM



EIA 9LY

MAXIMUM RATINGS

Design-Maximum Values	Pentode Section	Triode Section	
Plate Voltage	300	300	Volts
Screen Supply Voltage	300	---	Volts
Screen Voltage - See Screen Rating Chart			
Positive DC Grid-Number 1 Voltage	0	0	Volts
Plate Dissipation	2.5	2.5	Watts
Screen Dissipation	0.55	---	Watts
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Grid-Number 1 Circuit Resistance			
With Fixed Bias	2.2	2.2	Megohms
With Cathode Bias	2.2	2.2	Megohms

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

Average Characteristics

	Pentode Section	Triode Section	
Plate Voltage	125	125	Volts
Screen Voltage	125	---	Volts
Grid-Number 1 Voltage	-1.0	-1.0	Volts
Amplification Factor	---	46	
Plate Resistance, approximate	200000	5400	Ohms
Transconductance	7500	8500	Micromhos
Plate Current	12	13.5	Milliamperes
Screen Current	4.0	---	Milliamperes
Grid-Number 1 Voltage, approximate			
Ib = 10 Microamperes	-8	-8	Volts

* Heater voltage for a bogey tube at If = 0.15 amperes.

\+ For series heater operation, the equipment designer should design the equipment so that heater current is centered at the specified bogey value, with heater supply variations restricted to maintain heater current within the specified tolerance.

‡ With external shield (EIA 315) connected to cathode of section under test.

9/4/62 (E)