



5963

5963

MEDIUM-MU TWIN TRIODE

9-PIN MINIATURE TYPE

For "on-off" control applications involving long periods of operation under cutoff conditions

GENERAL DATA

Electrical:

Heater, Pure Tungsten, for Unipotential Cathodes:

Heater arrangement	Series	Parallel	
Voltage	12.6 ± 10%	6.3 ± 10%	ac or dc volts
Current	0.15	0.3	amp

Microphonism. Not Tested

Direct Interelectrode Capacitances (Approx.):^o

	Unit No. 1	Unit No. 2	
Grid to plate	1.5	1.5	μf
Grid to cathode and heater.	1.9	1.9	μf
Plate to cathode and heater	0.5	0.35	μf
Grid of unit No.1 to grid of unit No.2	0.1 max.		μf

Characteristics, Class A₁ Amplifier (Each Unit):

Plate Voltage	67.5	volts
Grid Voltage.	0	volts
Amplification Factor.	21	
Plate Resistance (Approx.).	6600	ohms
Transconductance.	3200	μmhos
Plate Current	8.5	ma

Mechanical:

Mounting Position	Any
Maximum Overall Length.	2-3/16"
Maximum Seated Length	1-5/16"
Length, Base Seat to Bulb Top (Excluding tip)	1-9/16" ± 3/32"
Maximum Diameter.	7/8"
Dimensional Outline	See General Section
Bulb.	T-6-1/2
Base.	Small-Button Noval 9-Pin (JETEC No. E9-1)
Basing Designation for BOTTOM VIEW.	9A

Pin 1 - Plate of Unit No.2	Pin 6 - Plate of Unit No.1
Pin 2 - Grid of Unit No.2	Pin 7 - Grid of Unit No.1
Pin 3 - Cathode of Unit No.2	Pin 8 - Cathode of Unit No.1
Pins 4 & 9 - Heater of Unit No.2	Pin 9 - Heater Mid-Tap
Pins 5 & 9 - Heater of Unit No.1	



^o without external shield.

← Indicates a change.

5963



5963

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FREQUENCY DIVIDER IN COMPUTER SERVICE and "ON-OFF" CONTROL SERVICE

Values are for Each Unit

Maximum Ratings, Absolute Values:

PLATE VOLTAGE.	250 max.	volts
GRID VOLTAGE:		
Negative bias value.	100 max.	volts
Positive bias value.	0 max.	volts
Peak negative value.	200 max.	volts
PLATE DISSIPATION.	2.5 max.	watts
GRID INPUT	0.5 max.	watt
CATHODE CURRENT:		
Peak	100 max.	ma
DC	20 max.	ma
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode.	90 max.	volts
Heater positive with respect to cathode.	90 max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	120 max.	°C

Typical Operation as Frequency Halfer:

	Cutoff Condition	Zero-Bias Condition	
Plate-Supply Voltage	150	150	volts
Grid Voltage	-15	0	volts
Plate-Circuit Resistance	20000	20000	ohms
Grid-Circuit Resistance.	47000	47000	ohms
Plate Current.	0	5.1	ma

Maximum Circuit Values:

Grid-Circuit Resistance:		
For fixed-bias operation	0.5 max.	megohm
For cathode-bias operation	1.0 max.	megohm

CHARACTERISTICS RANGE VALUES FOR EQUIPMENT DESIGN

	Note	Min.	Max.	
<i>Cutoff Condition</i>				
Plate Current.	1	-	50	μamp
Difference in Plate Current Between Units.	-	-	50	μamp
<i>Zero-Bias Condition</i>				
Plate Current.	2	4.6	5.4	ma
Difference in Plate Current Between Units.	-	-	0.8	ma

Note 1: For conditions with 12.6 volts on heater, plate-supply volts = 150, grid-supply volts = -15, plate-circuit resistance (ohms) = 20000, and grid-circuit resistance (ohms) = 47000.

Note 2: Conditions are same as for Note 1 except that grid-supply volts = 0.

→ Indicates a change.



5963

5963

AVERAGE OPERATION CHARACTERISTICS FOR EACH UNIT

