



RF AMPLIFIER PENTODE

5591
403 B

For use as RF amplifier and broadband amplifier, Within its ratings the 5591/403B is an excellent longlife replacement for types 5654 and 6AK5.

COLD CAPACITANCES (external shield connected to cathode)

	MIN	AVE	MAX	
Grid No 1 to Plate			.02	$\mu\mu\text{F}$
Input	3.4	4.0	4.6	$\mu\mu\text{F}$
Output	2.4	2.8	3.2	$\mu\mu\text{F}$

ABSOLUTE MAXIMUM RATINGS

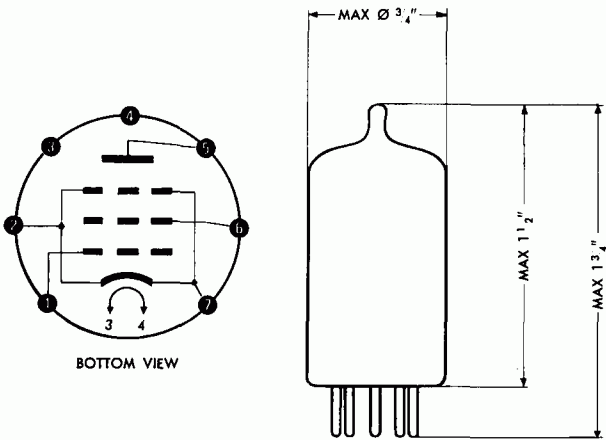
Plate Voltage	200	volts
Grid No 2 Voltage	155	volts
Grid No 1 Voltage, positive value	+ 5	volts
Grid No 1 Voltage, negative value	— 50	volts
Cathode Current	20	ma
Plate Dissipation	1.85	watts
Grid No 2 Dissipation (see Section A)	.55	watt
Heater — Cathode Voltage	100	volts
Bulb Temperature, at hottest point	150	°C
Grid No 1 Circuit Resistance		
with fixed bias	1.0	Mohm
with cathode bias	2.0	Mohms

MECHANICAL DATA

Base: Small Button Miniature 7-pin,
RETMA E7-1
Bulb: EIA T 5½
Mounting Position: Any

PIN NO. CONNECTED TO

- 1. Grid No 1
- 2. Cathode, Grid No 3,
Int. Shield
- 3. Heater
- 4. Heater
- 5. Plate
- 6. Grid No 2
- 7. Cathode, Grid No 3,
Int. Shield



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TYPICAL OPERATION, CLASS A₁

Heater Voltage	6.3	6.3	volts
Heater Current	.15	.15	amp
Plate Supply Voltage	130	180	volts
Grid No 2 Supply Voltage	130	120	volts
Cathode Bias Resistor	200	200	ohms
Plate Current	8.0	7.7	ma
Grid No 2 Current	2.0	1.8	ma
Transconductance	5100	5000	μ mhos
Plate Resistance	.35	.5	Mohm
Amplification Factor Grid No 2 to 1	28	28	
Grid No 1 Voltage for Plate Current = 10 μ a	— 6.5	— 6.0	volts
Equivalent Noise Resistance	1600	1600	ohms
Transit Time Loading at 100 Mc	40	40	μ mhos
Input Conductance at 100 Mc	125	125	μ mhos

OPERATION RANGE VALUES

Heater Voltage		6.3		volts
Plate Supply Voltage		130		volts
Grid No 2 Supply Voltage		130		volts
Cathode Bias Resistor		200		ohms
	MIN	AVE	MAX	
Heater Current	130	150	170	ma
Plate Current	5.8	8.0	10.8	ma
Grid No 2 Current	1.3	2.0	2.7	ma
Transconductance	4000	5100	6200	μ mhos
Transconductance, End of Life Point	3400			μ mhos
I_{hk} at $E_{hk} = \pm 100$ volts			20	μ a
Grid No 1 Current			— .1	μ a
Cutoff Plate Current at $E_{c1} = - 7.5$ volts			200	μ a
Vibration Output		10		mv
Measured at 2.5 g and 25 cps. $E_f = 6.3$ v, $E_b = 130$ v, $E_{c2} = 130$ v, $E_{c1} = - 2$ v, $r_p = 10,000$ ohms.				



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AVERAGE CHARACTERISTICS

