

Medium-Mu Triode Type 6BQ7-A

The 6BQ7-A is a 9-pin miniature, medium-mu, twin triode designed for use as the first amplifier in tuners of UHF television receivers. It is also intended for service in other applications that require a high gain, low noise amplifier.

GENERAL DATA

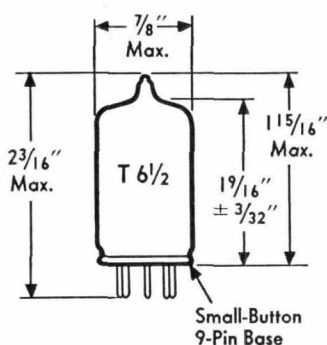
Electrical:

Cathodes	Two, Coated Unipotential		
Heater:			
Voltage	6.3 ac or dc	Volts	
Current	0.4	Ampere	
Direct Interelectrode Capacitances (external shield No. 315):			
	Unit 1	Unit 2	
Grid to Plate	1.15	1.15	$\mu\mu\text{f}$
Input	2.85	4.95 *	$\mu\mu\text{f}$
Output	1.35	2.27 *	$\mu\mu\text{f}$
Plate to Cathode	0.15 max.	0.15 max.	$\mu\mu\text{f}$
Plate, Unit 1 to Plate, Unit 2	0.010 max.		$\mu\mu\text{f}$
Plate, Unit 2 to Plate and Grid, Unit 1	0.024 max.		$\mu\mu\text{f}$

* With grounded grid.

Mechanical:

Bulb	T-6-1/2
Base	E9-1, Small Button 9-pin
Basing	9AJ
Mounting Position	Any



CE-A554

AMPLIFIER — CLASS A₁ Each Unit

Maximum Ratings

Design Center Values

Plate Voltage	250† max.	Volts
Cathode Current	20 max.	Ma.
Plate Dissipation	2 max.	Watts

Peak Heater—Cathode Voltage:

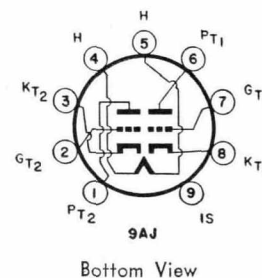
Heater Positive with Respect to Cathode ..	200 max.	Volts
Heater Negative with Respect to Cathode	200† max.	Volts

† Under cutoff conditions in r-f grounded-grid circuit with direct-coupled drive, it is permissible for this voltage to be as high as 300 volts.

Characteristics

Each Unit

Plate Voltage	150	Volts
Cathode—Bias Resistor	220	Ohms
Plate Current	9	Ma.
Transconductance	6400	μmhos
Plate Resistance	6100	Ohms
Amplification Factor	39	
Grid Bias (Approx.) for Plate		
Current of 10 μamp	-10	Volts



CLASS A₁ AMPLIFIER (Cont.)

Typical Operation — Push-Pull Grounded Grid Circuit:
Each Unit

Plate Voltage	150	Volts
Grid Voltage	-2 $\frac{1}{2}$	Volts
Cathode Resistor	100	Ohms
Plate Current	10	Ma.

† Obtained from cathode resistor.

Typical Operation — Grounded Grid Circuit
with Direct-Coupled Drive:

Unit No. 1 (driver-tube) is directly coupled to			
Unit No. 2 (driven rf-grounded-grid amplifier tube.)			
	Unit 1	Unit 2	
Plate Supply Voltage	250	250	Volts
Plate Voltage	135	115	Volts
Grid Voltage	-1	-	Volts
Cathode Bias Resistor	100	-	Ohms
Plate Current	10	10	Ma.
Grid Current	0	0	Ma.
Grid Voltage (Approx.) for			
Plate Current of 10 μ amp	-14	-	Volts
Peak Heater—Cathode Voltage:			
Heater Negative with Respect to Cathode	1	250	Volts
Maximum Circuit Values (Each Unit)			
Grid Circuit Resistance	.5 max. Megohm		

