2050 2050

2050-A

THYRATRON

The 2050-A is a four-electrode, inert-gas-filled thyratron for relay and grid-controlled-rectifier service. Features of the tube include a control characteristic independent of ambient temperature over a wide range, low grid-anode capacitance, low grid current, and high sensitivity. The 2050-A differs from the 2050 in having a T-9 envelope and a larger base.

ELECTRICAL

Cathode—Coated Unipotential		
Heater Voltage, AC or DC	6.3 ±10%	Volts
Heater Current	0.6	Amperes
Cathode Heating Time, minimum	10	Seconds
Direct Interelectrode Capacitances, approximate*		
Grid-Number 1 to Anode	0.15	μμf
Grid-Number 1 to Cathode and Grid-Number 2	2.2	μμf

MECHANICAL

Mounting Position—Any
Envelope—T-9, Glass
Base—B6-229, Intermediate-Shell Octal 6-Pin or
B8-142, Intermediate-Shell Octal 8-Pin

THERMAL

Type of Cooling—Air

MAXIMUM RATINGS, ABSOLUTE VALUES

Peak Anode Voltage			
Inverse	360	1300	Volts
Forward	180	650	Volts
Cathode Current			
Peak	1.0	1.0	Amperes
Average	0.2	0.1	Amperes
Maximum Averaging Time	30	30	Seconds
Fault	10	10	Amperes
Maximum Duration	0.1	0.1	Seconds
Negative Control-Grid Voltage			
Before Conduction	250	250	Volts
During Conduction	10	10	Volts
Positive Control-Grid Current			
Average, Averaging Time One Cycle	0.01	0.01	Amperes
Negative Shield-Grid Voltage			
Before Conduction	100	100	Volts
During Conduction	10	10	Volts
Positive Shield-Grid Current			
Average, Averaging Time One Cycle	0.01	0.01	Amperes
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode	25	25	Volts
Heater Negative with Respect to Cathode	100	100	Volts
Ambient Temperature Limits	−75 to +90		C

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

These values are chosen by the tube manufacturer to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

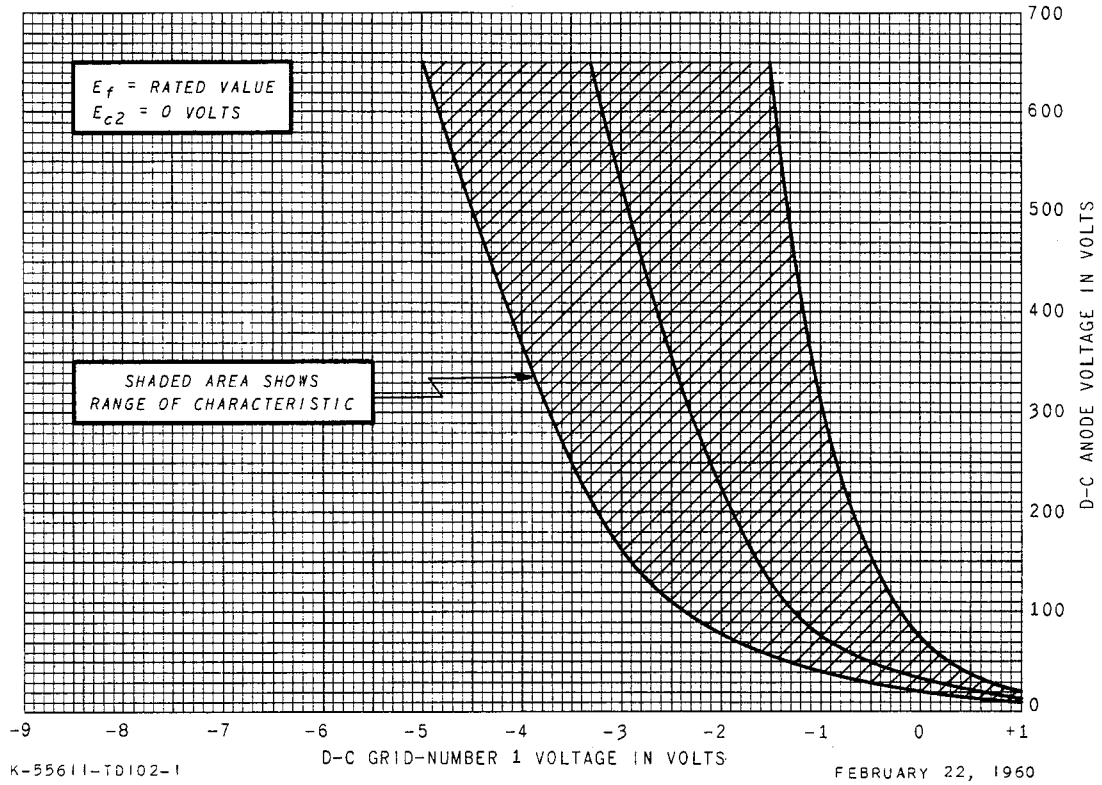
The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, variation in characteristics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

TYPICAL OPERATION

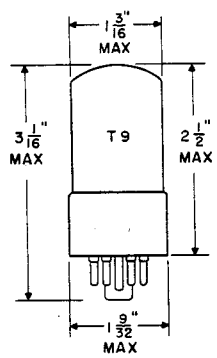
Ionization Time, approximate	0.5	Microseconds
Deionization Time, approximate		
Eb=125 volts, Ib=100 milliamperes, Rg=1000 ohms		
Ecc= −250 volts	50	Microseconds
Ecc= −10 volts	100	Microseconds
Anode Voltage Drop	8	Volts
Critical Grid Current, maximum		
Ebb=460 volts, RMS; Ib=100 milliamperes	0.5	Microamperes

* Without external shield.

AVERAGE CONTROL CHARACTERISTICS



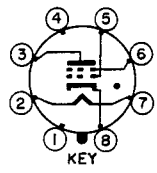
OUTLINE (EIA 9-7)



TERMINAL CONNECTIONS

Pin 1—No Connection
Pin 2—Heater
Pin 3—Anode
Pin 4—No Connection
Pin 5—Grid Number 1 (Control Grid)
Pin 6—Grid Number 2 (Screen Grid)
Pin 7—Heater
Pin 8—Cathode

BASING DIAGRAM (EIA 6BS)



GENERAL ELECTRIC

POWER TUBE DEPARTMENT
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