ELECTRONICS

7913

METAL-CERAMIC TRIODE

DESCRIPTION AND RATING

The 7913 is a high-mu triode of ceramic-and-metal planar construction primarily intended for use as an oscillator or radio-frequency power amplifier.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.3	Volts
Heater Current‡	0.4	Amperes
Direct Interelectrode Capacitances§		
Grid to Plate: (g to p)	2.4	pf
Input: g to (h + k)	6.0	pf
Output: p to (h + k)	0.03	pf
Heater to Cathode: (h to k)	2.4	pf

MECHANICAL

Operating Position - Any

See Outline Drawing on page 3 for dimensions and electrical connections.

MAXIMUM RATINGS

ABSOLUTE-MAXIMUM VALUES

Plate Voltage	330	Volts
Plate Dissipation	5.5	Watts
DC Grid Current	10	Milliamperes
DC Cathode Current	30	Milliamperes
Peak Cathode Current	120	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	50	Volts
Heater Negative with Respect to Cathode	50	Volts
Grid-Circuit Resistance		
With Fixed Bias	0.025	Megohms
With Cathode Bias	0.1	Megohms
Envelope Temperature at Hottest Point	250	C

Absolute-Maximum ratings are limiting values of operating and environmental conditions applicable to any 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 no allowance for equipment variations, environmental variations, and the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration and of all other electron devices in the equipment.

The equipment manufacturer should design so that initially and throughout life no absolute-maximum value for the intended service is exceeded with any 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 the tube under consideration and of all other electron devices in the equipment.

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	200	Volts
Cathode-Bias Resistor	47	Ohms
Amplification Factor	100	
Plate Resistance, approximate	2500	Ohms
Transconductance	40000	Micromhos
Plate Current	25	Milliamperes
Grid Voltage, approximate Ib = 100 Microamperes	-4.5	Volts

UHF OSCILLATOR SERVICE

Frequency	400	Megacycles
Plate Voltage	300	Volts
Grid Resistor	1500	Ohms
Plate Current	25	Milliamperes
Grid Current, approximate	5	Milliamperes
Power Output, approximate	4	Watts

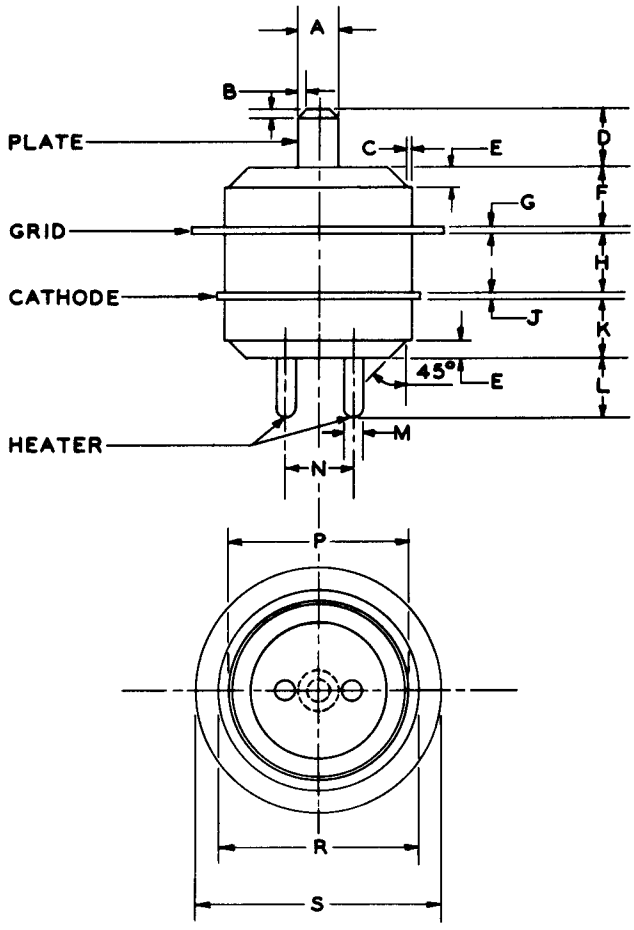
NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

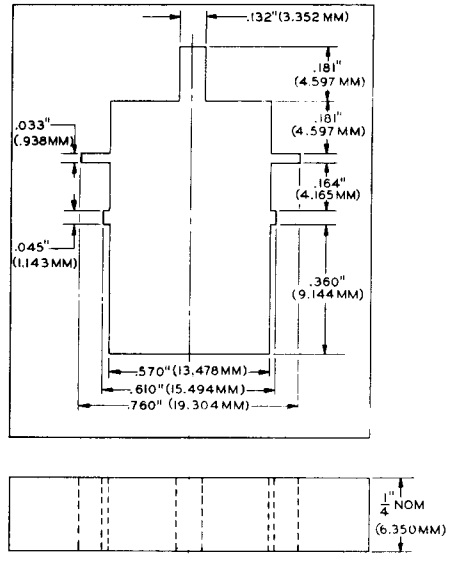
‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ Without external shield.

PHYSICAL DIMENSIONS



ALIGNMENT GAUGE

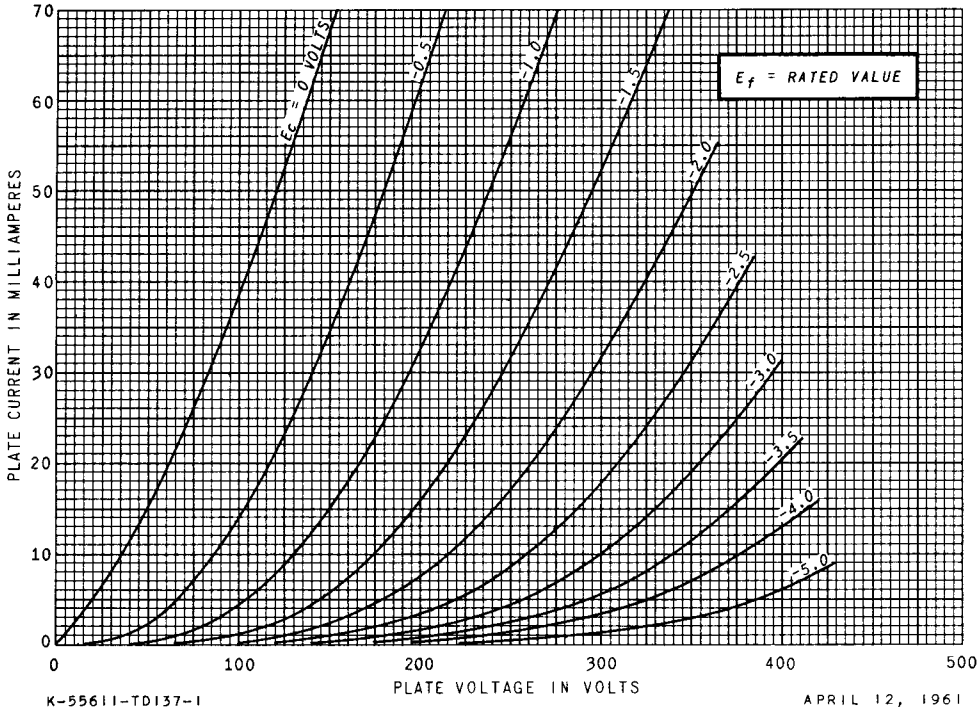


Note: Tolerances are ±0.001 inches or ±0.025 millimeters, unless otherwise indicated.

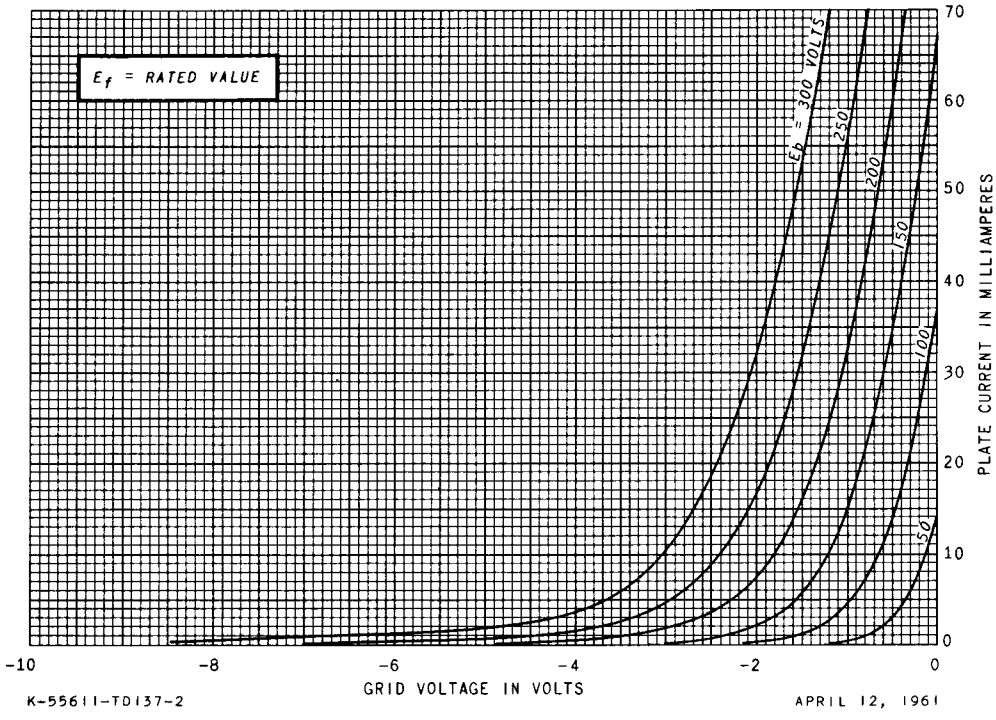
Ref.	INCHES			MILLIMETERS		
	Minimum	Nominal	Maximum	Minimum	Nominal	Maximum
A	0.122		0.128	3.099		3.251
B		0.030			0.76	
C		0.005			0.13	
D	0.170		0.180	4.32		4.57
E	0.040		0.060	1.02		1.52
F	0.165		0.175	4.19		4.45
G	0.025		0.031	0.635		0.787
H	0.167		0.177	4.24		4.50
J	0.025		0.031	0.635		0.787
K	0.170		0.180	4.32		4.57
L	0.170		0.180	4.32		4.57
M	0.047		0.053	1.194		1.346
N	0.185		0.215	4.70		5.46
P	0.535		0.565	13.59		14.35
R	0.598		0.608	15.19		15.44
S	0.748		0.758	19.00		19.25

Note: The millimeter dimensions are derived from the original inch dimensions.

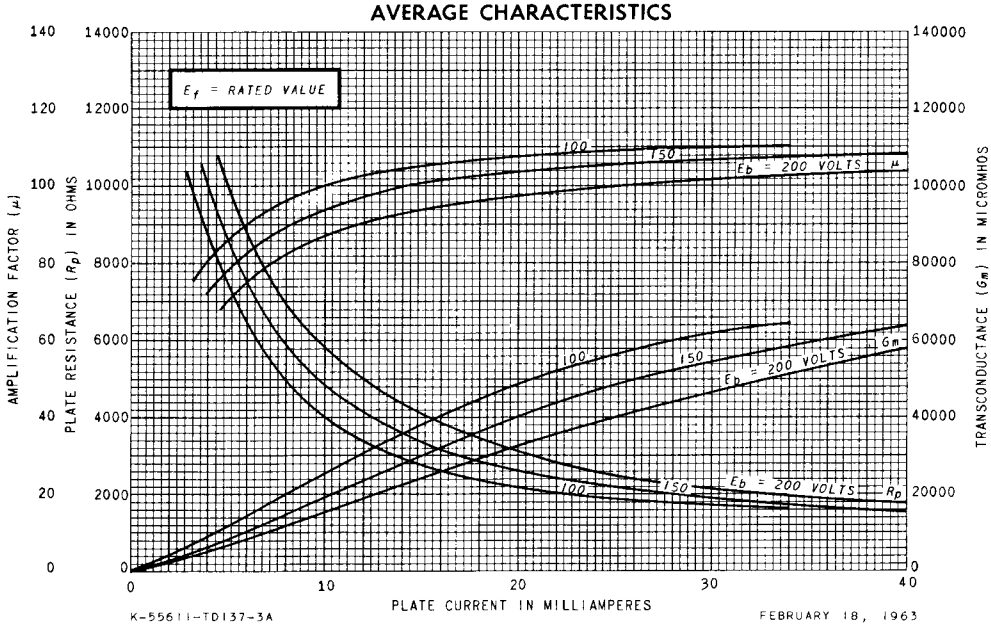
AVERAGE PLATE CHARACTERISTICS



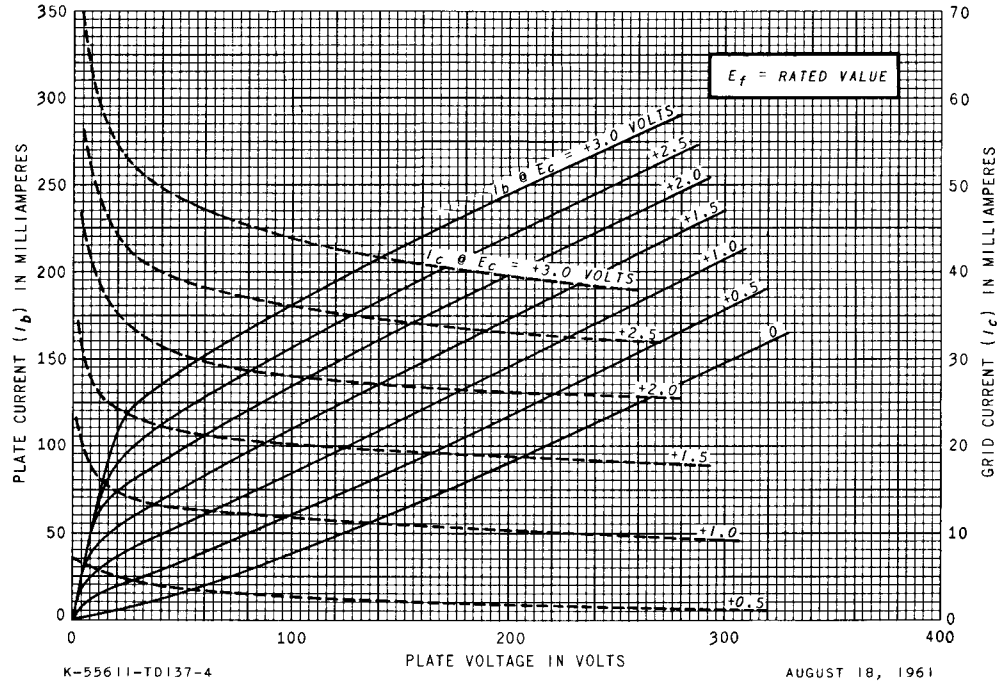
AVERAGE TRANSFER CHARACTERISTICS



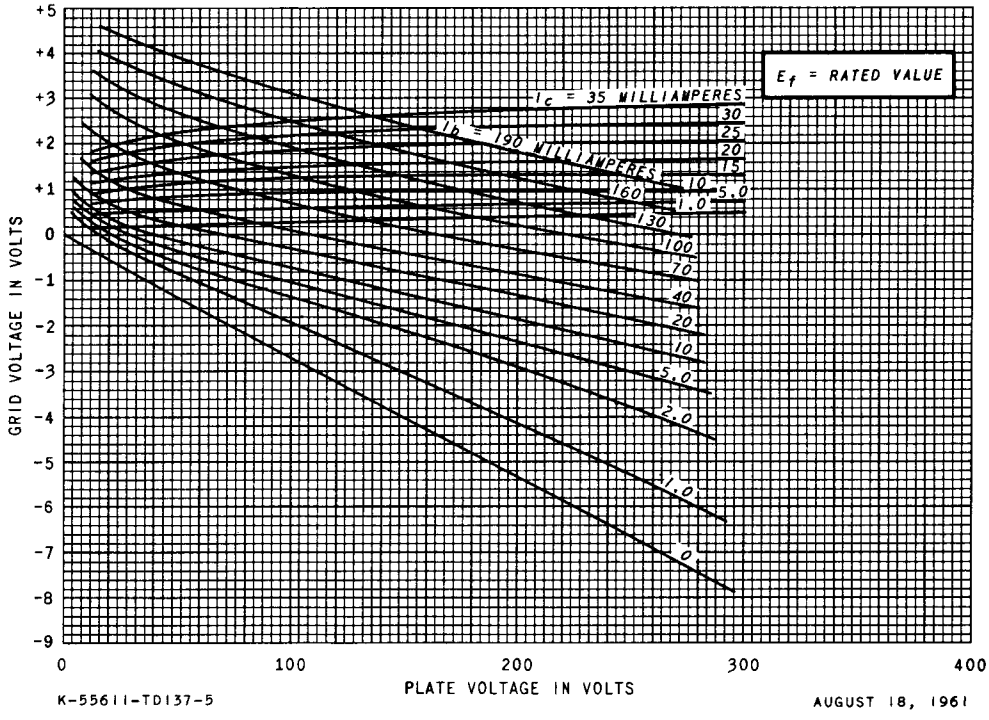
AVERAGE CHARACTERISTICS



AVERAGE PLATE CHARACTERISTICS



AVERAGE CONSTANT-CURRENT CHARACTERISTICS



TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky