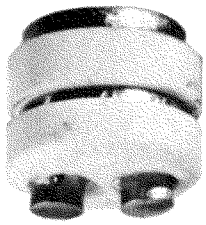
METAL-CERAMIC DIODE



DESCRIPTION AND RATING

The 7266 is a cathode-type diode of ceramic-and-metal planar construction. It is intended for detector, high-frequency instrument probe, and low-current rectifier applications. The 7266 is especially suited for use where unfavorable conditions of mechanical shock, mechanical vibration, and nuclear radiation are encountered.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3 ± 0.3	Volts
Heater Current†	0.215	Amperes

Direct Interelectrode Capacitances‡

Plate to Cathode: (p to k)	1.0	pf
Heater to Cathode: (h to k)	1.3	pf

MECHANICAL

Mounting Position—Any

See Outline Drawing on page 3 for dimensions and electrical connections

MAXIMUM RATINGS

ABSOLUTE-MAXIMUM VALUES

Peak Inverse Plate Voltage	600	Volts
Steady-State Peak Plate Current	11	Milliamperes
DC Output Current	2.2	Milliamperes
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	50	Volts
Heater Negative with Respect to Cathode	50	Volts
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.

AVERAGE CHARACTERISTICS

Tube Voltage Drop		
Ib = 1.0 Milliamperes DC	1.0	Volts

AVERAGE CHARACTERISTICS (Continued)

FOOTNOTES

* 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.
‡ Measured using a grounded adapter that provides shielding between external terminals of tube.
§ Operation below the rated maximum envelope temperature is recommended for applications requiring the longest possible tube life. The 7266 is also capable of operation at envelope temperatures much higher than the rated maximum values. For specific recommendations concerning higher temperature operation, contact your General Electric tube sales representative.

INITIAL CHARACTERISTICS LIMITS

	Min.	Bogey	Max.	
Heater Current				
Ef = 6.3 volts	198	215	232	Milliamperes
Tube Voltage Drop				
Ef = 6.3 volts, Eb adjusted for Ib = 1.0 ma	0.4	1.0	2.0	Volts
Tube Voltage Drop at Reduced Heater Voltage				
Ef = 5.7 volts, Eb adjusted for Ib = 1.0 ma	...	...	2.3	Volts
Emission				
Ef = 6.3 volts, Eb = 9 volts d-c	10	...	...	Milliamperes
Plate Current				
Ef = 6.3 volts, Ebb = 0 volts, R_L = 40000 ohms	2	8	16	Microamperes
Interelectrode Capacitances				
Plate to Cathode: (p to k)	0.7	1.0	1.3	Picofarads
Heater to Cathode: (h to k)	0.9	1.3	1.7	Picofarads
Heater-Cathode Leakage Current				
Ef = 6.3 volts, Ehk = 100 volts				
Heater Positive with Respect to Cathode	...	...	20	Microamperes
Heater Negative with Respect to Cathode	...	...	20	Microamperes
Interelectrode Leakage Resistance				
Ef = 6.3 volts. Polarity of applied d-c interelectrode voltage is such that no cathode omission results.				
Plate to All at 500 volts d-c	10000	...	...	Megohms

SPECIAL PERFORMANCE TESTS

Low Pressure Voltage Breakdown Test
Statistical sample tested for voltage breakdown at a pressure of 8mm Hg, to simulate an altitude of 100000 feet. Tubes shall not give visual evidence of flashover or corona when 300 volts RMS, 60 cps, is applied between the plate and cathode terminals.

DEGRADATION RATE TESTS

Fatigue

Statistical sample vibrated for a total of six hours, three hours in each of two planes, at a peak acceleration of 10G. Frequency is continuously varied from 30 cps to 2000 cps and back to 30 cps, with a period of ten minutes. Tubes are operated during the test with Ef = 6.3 volts and Ehk = +100 volts. Following the test, tubes are evaluated for heater-cathode leakage and heater current.

Shock

Statistical sample subjected to 5 impact accelerations of approximately 450G in each of four positions. The accelerating forces are applied by the Navy-type, High Impact (flyweight) Shock Machine using a 30° hammer angle. Tubes are operated during the test with Ef = 6.3 volts and Ehk = +100 volts. Following the test, tubes are evaluated for heater-cathode leakage and heater current.

Survival Rate Life Test

The combined statistical samples subjected to the Intermittent and Standby Life Tests are evaluated for shorted and open elements and tube voltage drop following approximately 100 hours of life test.

Intermittent Life Test

Statistical sample operated for 1000 hours under the following conditions: Ef = 6.3 volts (cycled—on 1¾ hours, off ¼ hour), Ebb = 220 volts RMS, Ehk = −70 volts d-c, R_L = 0.13 meg, C_L = 1.0 μf, and Rs = 1300 ohms. Tubes are evaluated, following 500 and 1000 hours of life test, for shorted or open elements, heater current, tube voltage drop, heater-cathode leakage, interelectrode leakage resistance, and emission.

Standby Life Test

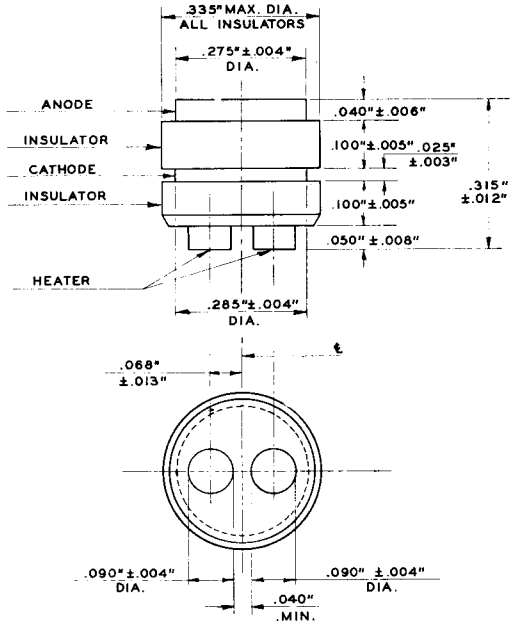
Statistical sample operated for 1000 hours under the following conditions: Ef = 6.3 volts (cycled—on 1¾ hours, off ¼ hour) no other voltages applied. Tubes are evaluated, following 500 and 1000 hours of life test, for shorted or open elements, heater current, tube voltage drop, heater-cathode leakage, interelectrode leakage resistance, and emission.

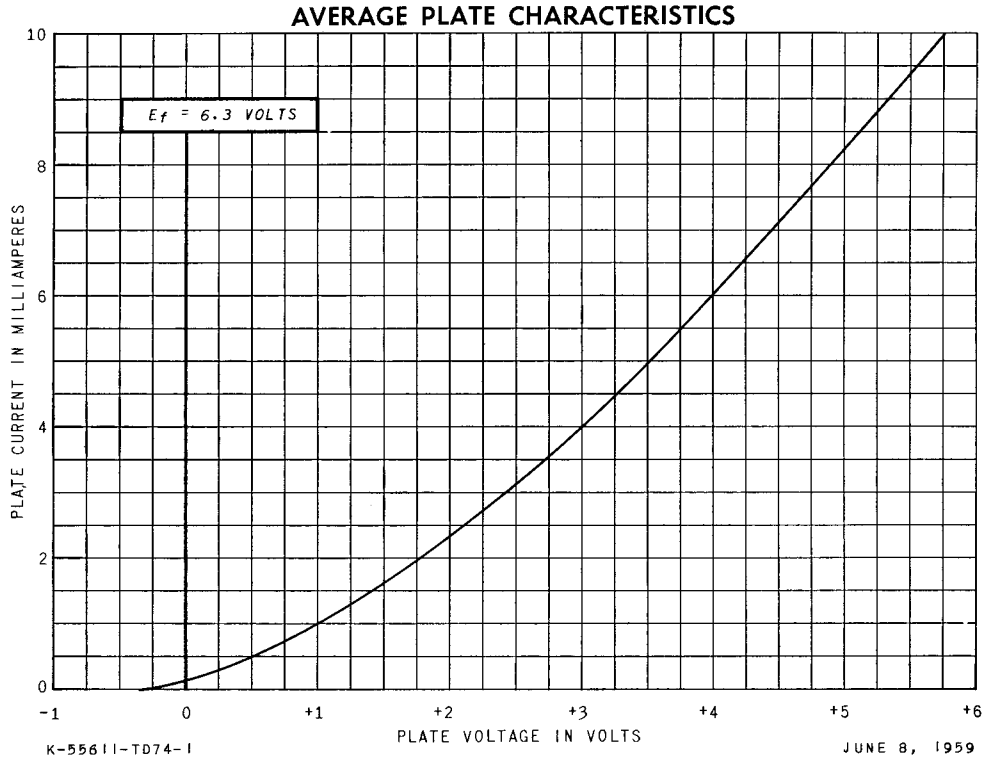
Heater-Cycling Life Test

Statistical sample operated for 2000 cycles minimum to evaluate and control heater-cathode defects. Conditions of test include Ef = 7.0 volts cycled for one minute on and one minute off, Eb = 0 volts, and Ehk = 70 volts with heater positive with respect to cathode. Following this test, tubes are evaluated for open heaters, heater-cathode shorts, and heater-cathode leakage current.

Note: The conditions for some of the indicated tests have deliberately been selected to aggravate tube failures for test and evaluation purposes. In no sense should these conditions be interpreted as suitable operating conditions.

OUTLINE DRAWING





RECEIVING TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky