AMPEREX TUBE TYPE 6758

6758

TENTATIVE DATA

The 6758 is a three electrode, water-cooled tube designed with special characteristics as a low impedance, RF industrial oscillator to deliver maximum power under varying load conditions.

The filament is thoriated tungsten. The anode is capable of dissipating 6KW. Maximum ratings apply up to 30 mc.

The 6758 has a heavy wall, high dissipation and heat storage copper anode and an extremely rigid, coaxial grid structure.

Filament connections are made with heavy, heat dissipating, permanently attached, flexible leads eliminating difficulties due to contact resistance at the terminals.

The tube design also incorporates wide spacings between the elements which, together with the rugged mechanical supports, prevent internal shorting.

GENERAL CHARACTERISTICS

ELECTRICAL DATA

Filament	Thoriated tungsten
Filament Voltage	12.6 volts
Filament Current	33 amperes
Starting Current (cannot be exceeded even momentarily)	63 amperes
Peak Cathode Current [1]	10 amperes
Amplification Factor (I_b = 1 amp., E_b = 2000 volts)	9
Transconductance (I_b = 1 amp., E_b = 2000 volts)	7700 micromhos
Plate Resistance	1180 ohms
Direct Interelectrode Capacitance	
Grid to Plate	14.0 mmf
Grid to Filament	12.0 mmf
Plate to Filament	1.0 mmf

MECHANICAL DATA

Mounting Position	vertical with plate down
Max. Temperature of Seals	180° C
Tube Net Weight (approx.)	17 oz.

COOLING [2]

Water and low velocity air flow.

[1] Represents maximum usable cathode current for any condition of operation.

[2] At frequencies above 30 MC it is necessary to direct a low velocity air flow to plate and grid seals.

COOLING CHARACTERISTICS (Max. Inlet Water Temp. = 50° C)

Plate Dissipation (kilowatts)	Inlet Water Temperature °C	Minimum Water Flow (GPM)	Inlet Water Pressure (lbs/sq. inch)
1	20	0.87	1.56
	35	0.96	1.74
	50	1.05	1.94
2	20	0.87	1.56
	35	1.31	3.70
	50	1.74	5.82
4	20	1.40	3.50
	35	2.28	10.50
	50	3.14	17.4
6	20	2.09	7.80
	35	3.50	28.2

ACCESSORIES

Water Jacket	Amperex Type #S-3737
Grid Connector	Amperex Type #S-17288

MAXIMUM RATINGS AND TYPICAL OPERATING CONDITIONS

Oscillator, Class C - Three Phase, Full-Wave Supply

Maximum Ratings, Absolute Values (per tube)

	CCS
DC Plate Voltage	7000 volts d-c
DC Plate Current	1.9 amperes d-c
DC Grid Voltage	−1550 volts d-c
DC Grid Current (full load)	0.090 amperes d-c
DC Grid Current (no load) [3]	0.135 amperes d-c
Grid Dissipation	55 watts
Plate Input	12 kilowatts
Plate Dissipation	6 kilowatts

Typical Operation (per tube)

	CCS Full Load	CCS No Load
DC Plate Voltage	7000	7000 volts d-c
DC Plate Current	1.72	0.550 amperes d-c
DC Grid Voltage	− 820	− 1220 volts d-c
RF Grid Voltage	1470	—— volts
DC Grid Current	0.082	0.122 amperes d-c
Grid Resistor	10	10 kilohms
Plate Input	12	3.8 kilowatts
Plate Dissipation	3.85	—— kilowatts
Plate Power Output	8.15	—— kilowatts
Tube Efficiency	68	—— per cent
Equipment Power Output (approx.)	6	—— kilowatts

[3] No load condition is valid for plate current of 0.500 amperes d-c or less

6758

Oscillator, Class C - Single Phase, Full Wave Supply

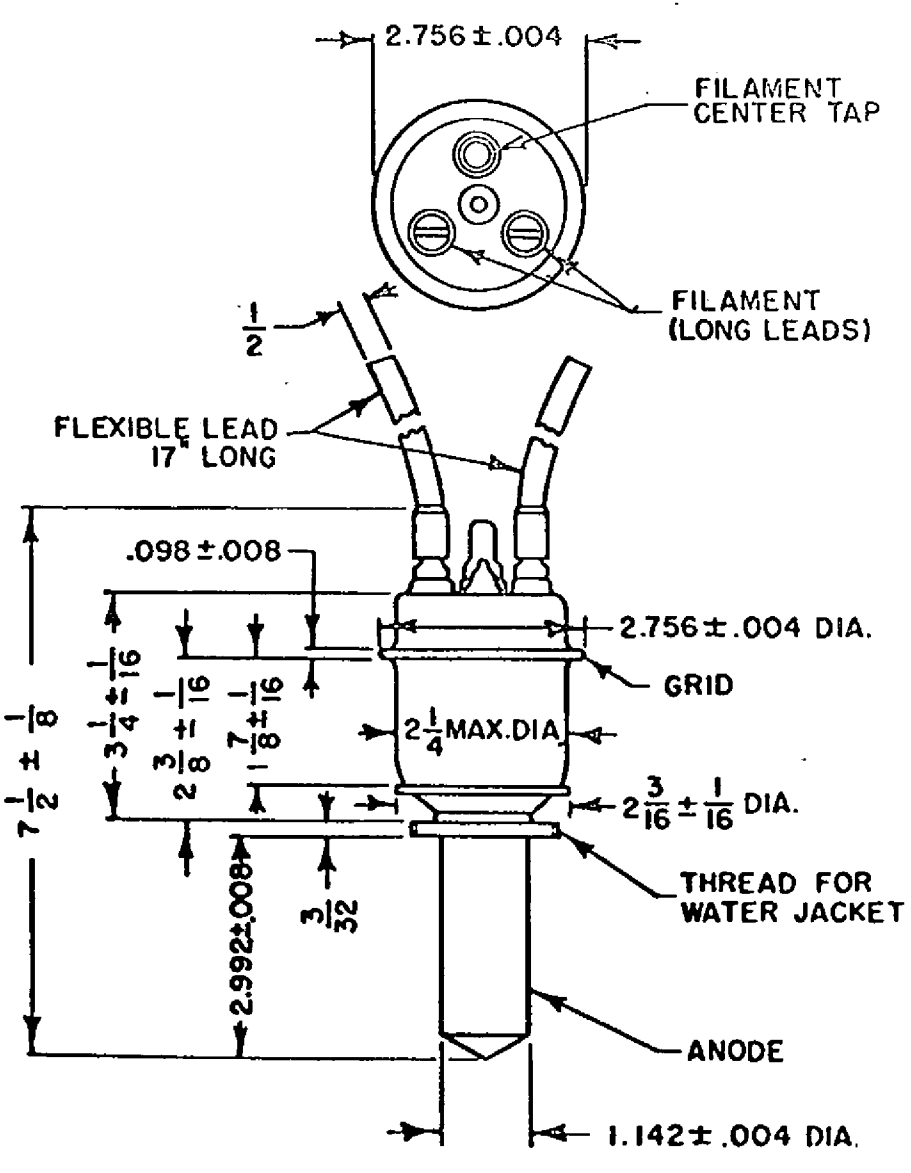
Maximum Ratings, Absolute Values (per tube)

	CCS
DC Plate Voltage	6300 volts d-c
DC Plate Current	1.7 amperes d-c
DC Grid Voltage	−1350 volts d-c
D.C. Grid Current (Full Load)	0.074 amperes d-c
D.C. Grid Current (No Load) [3]	0.110 amperes d-c
Grid Dissipation	55 watts
Plate Input	12 kilowatts
Plate Dissipation	6 kilowatts

Typical Operation (per tube)

	CCS Full Load	CCS No Load
DC Plate Voltage	6300	6300 volts d-c
DC Plate Current	1.55	0.490 amperes d-c
DC Grid Voltage	−740	−1100 volts d-c
DC Grid Current	0.074	0.110 amperes d-c
Grid Resistor	10	10 kilohms
Plate Input	12	3.8 kilowatts
Plate Dissipation	3.85	— kilowatts
Plate Power Output	8.15	— kilowatts
Tube Efficiency	68	— per cent
Equipment Power Output (approx.)	6	— kilowatts

[3] No load condition is valid for plate current of 0.500 amperes d-c or less



6758

6758 CONSTANT CURRENT CHARACTERISTIC