



ELECTRON TUBE DIVISION

CLIFTON, NEW JERSEY

INTERNATIONAL TELEPHONE AND TELEGRAPH CORPORATION

KUTHE
KU-93

T E N T A T I V E

CERAMIC HYDROGEN DIODE

DESCRIPTION:

THE KU-93 IS A CERAMIC ENVELOPE, INDIRECTLY HEATED, HYDROGEN FILLED DIODE FOR USE IN HIGH VOLTAGE RECTIFIER AND CLIPPER CIRCUITS. THIS TUBE, EQUIPPED WITH A HYDROGEN RESERVOIR WILL GIVE EXCELLENT SERVICE UNDER SEVERE ENVIRONMENTAL CONDITIONS.

THE INHERENT IMMUNITY FROM ELECTRICAL SURGE DAMAGE, AND RUGGED PHYSICAL CONSTRUCTION SUIT THIS DIODE TO COMPACT HIGH POWER RECTIFIERS AND MODULATORS.

ELECTRICAL DATA, GENERAL:

	<u>NOM.</u>	<u>MIN.</u>	<u>MAX.</u>	
HEATER VOLTAGE	5.0	4.7	5.3	VOLTS AC
HEATER CURRENT (AT 5.0 VOLTS) HEATER (NOTE 1)		15.0	27.0	AMPERES
RESERVOIR VOLTAGE (NOTE 2)	5.0	4.7	5.8	VOLTS
RESERVOIR CURRENT AT 5.0 VOLTS		3.5	5.5	AMPERES
MINIMUM HEATING TIME				5 MINUTES

MECHANICAL DATA, GENERAL:

MOUNTING POSITION	VERTICAL ONLY, BASE DOWN
BASE	PER OUTLINE
COOLING (NOTE 3)	
NET WEIGHT	3.0 POUNDS
DIMENSIONS (SEE OUTLINE DRAWING)	

MAXIMUM RATINGS:

	<u>RECTIFIER</u>	<u>CLIPPER</u>	<u>BACK SWING DIODE</u>	
PEAK INVERSE ANODE VOLTAGE	20.0	30.0	30.0	KILOVOLTS
PEAK ANODE CURRENT	8.0	500	500	AMPERES
AVERAGE ANODE CURRENT	2.0	1.0	2.0	AMPERES
R.M.S. ANODE CURRENT (NOTE 4)	4.0	15.0	15.0	AMPERES
ANODE VOLTAGE DROP	70	500		VOLTS
INITIAL FIRING VOLTAGE (NOTE 5)	100			VOLTS
RECURRENT FIRING VOLTAGE	60			VOLTS
AMBIENT TEMPERATURE	- 55° TO / 125°			CENTIGRADE

NOTE 1:

SEE OUTLINE DRAWING.

NOTE 2:

THE OPTIMUM RESERVOIR VOLTAGE FOR RECTIFIER AND PULSE TRANSFORMER BACK SWING CLIPPER SERVICE IS 5.0 VOLTS. THIS MAY BE OBTAINED BY DIRECT CONNECTION TO THE CATHODE HEATER SUPPLY. FOR USE IN CERTAIN TYPES OF INVERSE CLIPPER SERVICE, A RESERVOIR VOLTAGE SOMEWHAT HIGHER OR LOWER MAY BE REQUIRED (ERES 4.0 - 6.0 VOLTS).

NOTE 3:

AIR BLAST COOLING (10 CFM) IS RECOMMENDED ABOUT THE BASE AND ANODE FOR OPERATION IN HIGH AMBIENT TEMPERATURE.

NOTE 4:

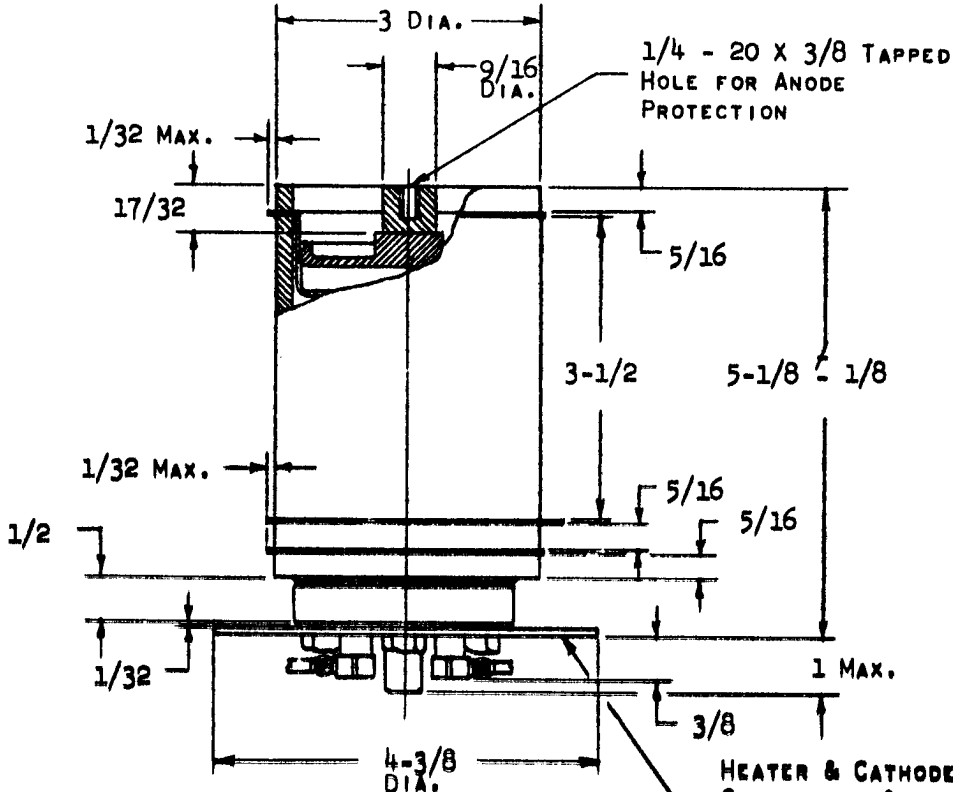
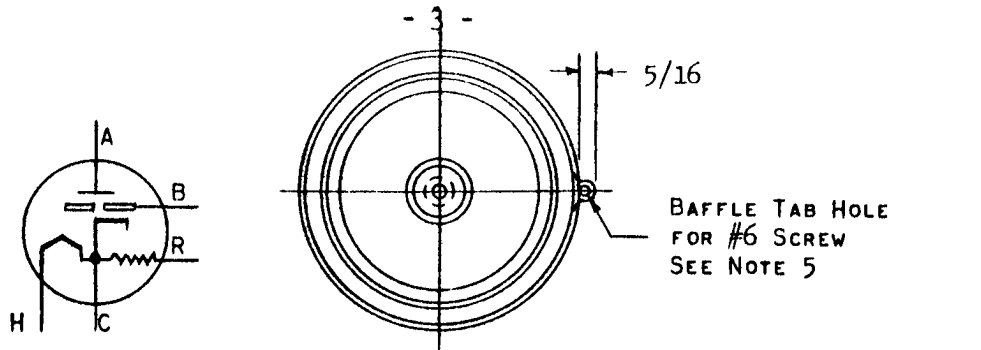
THE ROOT MEAN SQUARE ANODE CURRENT SHALL BE COMPUTED AS THE SQUARE ROOT OF THE PRODUCT OF PEAK CURRENT AND THE AVERAGE CURRENT.

NOTE 5:

IT IS RECOMMENDED THAT THE BAFFLE BE LEFT FLOATING FOR RECTIFIER SERVICE. THE BAFFLE SHOULD BE CONNECTED TO THE CATHODE FOR CLIPPER SERVICE.

ADDITIONAL INFORMATION FOR SPECIFIC APPLICATIONS CAN BE OBTAINED FROM THE

ELECTRON TUBE APPLICATIONS SECTION
ITT ELECTRON TUBE DIVISION
POST OFFICE BOX 104
CLIFTON, NEW JERSEY



(3) MTG. HOLES FOR 1/4 SCREW, 120° SPACING ON 3.750 CIRCLE

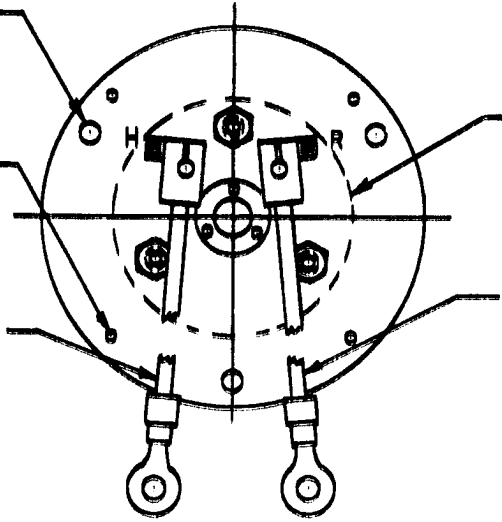
(4) MTG. HOLES FOR #10 SCREW, 50° SPACING ON 3.953 CIRCLE

HEATER LEAD-YELLOW 9 LONG; YELLOW LUG FOR 1/4 SCREW

HEATER & CATHODE CONNECTION & MOUNTING PLATE 1/8 THICK

2-5/8 DIA. MINIMUM CLEARANCE HOLE REQUIRED FOR MOUNTING

RESERVOIR LEAD-RED, 9 LONG; RED LUG FOR 1/4 SCREW



OUTLINE

KU-93