



QUASIOPTICAL SOURCE

QS6-55 sn180474

I. SPECIFICATIONS

1. OPERATION RANGE, GHz 34.5 ÷ 58.6
2. CATHODE VOLTAGE (negative), V 400÷ 1400
3. CATHODE CURRENT, mA 13-16
4. HEATER CURRENT, A..... 2.08
5. GRID VOLTAGE (positive), V 200
6. OUTPUT POWER, mW up to 15

II. CONTROL POINT PARAMETERS

Cathode current is varies with Cathode voltage and Heater current settings. The control point parameters are defined to prevent cathode damage due to excessive current

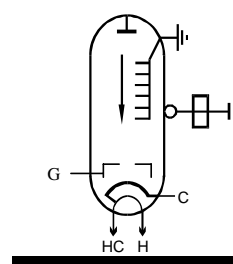
1. Cathode voltage, V	900
2. Cathode current, mA	13
3.Heater current, A	2.08
4.Grid voltage, V	200
5.Output frequency, GHz	48.9

If cathode current at the control cathode voltage exceeds specified value, reduce the heater current to prevent cathode degradation. BWO can not be repaired if the cathode is damaged.

III. SCHEME OF CONNECTION OF ELECTRODES

Sign	Name of electrode	Color
HC	heater+cathode	brown
H	heater	yellow
G	green	green

Note:
Body of BWO tube must be connected to the ground.



VI. CALIBRATION POLYNOMIAL

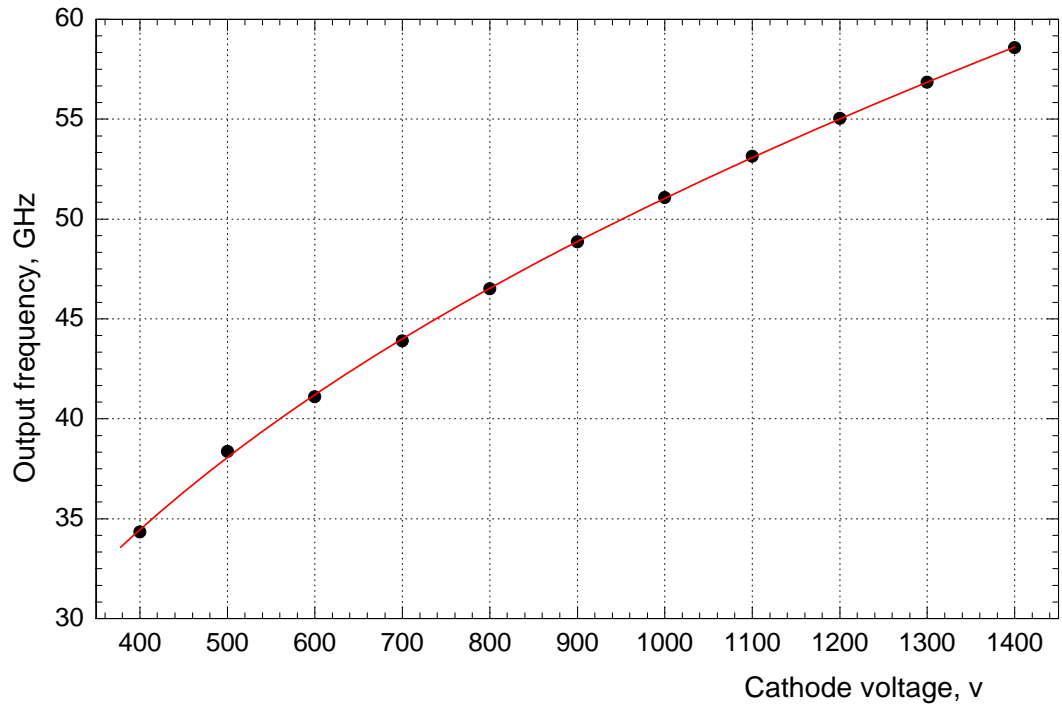
$$U(f) = (U_0 + U_1 f + U_2 f^2 + U_3 f^3)^2,$$

$$(2) \quad f(U) = f_0 + f_1 \sqrt{U} + f_2 U + f_3 U^{3/2},$$

U in volts, f in GHz

$U_0=7.1189704693$	$f_0=-5.1263432021$
$U_1=0.0432276214$	$f_1=2.5065356357$
$U_2=0.0117814570$	$f_2=-0.0320145915$
$U_3=-0.0000631340$	$f_3=0.0002820755$

V. CALIBRATION CURVE



VI. OUTPUT POWER PATTERN

