

# PT6055

## Travelling Wave Tube

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The PT6055 is an S-band travelling wave tube amplifier having the following features:

- Grid pulsing
- Air cooling
- PPM focusing to achieve low mass.
- Ion pump fitted to the tube to monitor the vacuum, ensuring long life and high reliability.

The Peak Power is nominally 50 kW, the duty cycle 2.4% and the minimum gain 50 dB.

The tube operates over the frequency band 2750-3050 MHz.

The RF input is an N-type coaxial connector and the RF output is in waveguide (CPR 284F).



# Specification

## ELECTRICAL SPECIFICATIONS (NOMINALS)

**Cathode Voltage** (with respect to body)  
-32 kV

**Collector Depression** (with respect to body)  
-10 kV

**Cathode Current**  
9 A

**Interception Current**  
3 A maximum

**Duty Cycle**  
2.4 % maximum

**Heater Voltage**  
9.3 V D.C.

**Heater Current**  
9.3 A

**Cathode warm-up time**  
10 minutes

**Grid Bias**  
-500 V

**Grid Forward Drive**  
+500 V

**Grid Current**  
10 mA

**Grid Capacitance**  
100 pF

**Frequency Band**  
2750 MHz to 3050 MHz

**RF Drive Power**  
0.5 W maximum  
Peak Output Power  
50 kW minimum

**Ion Pump Voltage**  
3.5 kV

## MECHANICAL SPECIFICATIONS

**Dimensions**  
See drawing attached

**Coolant**  
Forced air

**Coolant flow rate**  
14 lbs per minute

**Coolant pressure drop**  
9 inch WG at 20 deg C

**Coolant inlet temperature**  
-15 to +60 deg C

**Gun Cooling**  
No separate cooling required

**Waveguide Pressurisation**  
Not required

**Mass**  
41 kg

**Coolant Connections**  
See outline drawing

**Electrical Connections**  
Flying leads to connect with amp  
type LGH4

**RF Waveguide Output**  
CPR 284F flange

**RF Input Connector**  
Type N - co-axial

**Mounting**  
Any position

**Vac Ion Connection**  
Type to mate with UG931/U(MHV)

## OTHER

### Life

2000 Hours minimum (end of life defined as when the Peak Output power has fallen to 40 kW peak with the nameplate conditions applied)

### X-Radiation

0.7 mR per hour

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