

WATER-COOLED R.F. TRIODE

TX12-20W

High-power water-cooled triode, primarily intended for use in the output stage of communications transmitters, also suitable for R.F. heating purposes.

FILAMENT

Pure tungsten, suitable for a.c. or d.c. operation.

Marked V_f 18.5 $\pm$ 0.5 V
 I_f (approx.) 85 A

(Marked volts give 10 amps emission for 90% saturation).

CAPACITANCES

C_{g-f} 28 $\mu\mu\text{F}$
 C_{a-f} 1.5 $\mu\mu\text{F}$
 C_{a-g} 26 $\mu\mu\text{F}$

CHARACTERISTICS (At $V_a = 12$ kV $I_a = 1.0$ A)

g_m 11 mA/V
 μ 38
 r_a 3.5 k Ω

LIMITING VALUES

V_a max. 12 kV
 I_k max. 3.0 A
 I_g max. 0.5 A
 p_a max. 18 kW
 f max. 20 Mc/s
 Min. water flow rate 4.5 gal/min
 Max. water temp. rise 14 $^{\circ}\text{C}$
 Max. water outlet temp. 60 $^{\circ}\text{C}$

TYPICAL OPERATING CONDITIONS AS CLASS "C" C.W. AMPLIFIER (At $f = 1$ Mc/s)

V_a 12 kV
 V_g -900 V
 I_a 2.63 A
 I_g 0.37 A
 V_{drive} (pk) 1.85 kV
 P_{drive} 700 W
 P_{out} 22 kW
 p_a 9.5 kW
 η 70 %

TYPICAL OPERATING CONDITIONS AS CLASS "B" AMPLIFIER WITH MODULATED INPUT (At $f = 1$ Mc/s)

V_a 12 kV
 V_g -300 V
 (Carrier) (Peak values for 100% mod.)
 I_a 1.1 2.5 A
 I_g - 0.2 A
 V_{drive} (pk) 430 860 V
 P_{drive} - 160 W
 P_{out} 4.25 19 kW
 p_a 9.0 11 kW
 η 32 63.5 %