R.F. INDUSTRIAL TRIODE

YD1212

TENTATIVE DATA

QUICK REFERENCE DATA

External anode triode of ceramic-metal construction, water cooled by means of an integral cooler, intended for use as a class 'C' industrial oscillator.

f	≤30	MHz
P_{out} (less P_{drive})	240	kW
f max.	30	MHz
V_a max.	16.8	kV
p_a max.	120	kW

To be read in conjunction with
GENERAL OPERATIONAL RECOMMENDATIONS - TRANSMITTING VALVES

INDUSTRIAL OSCILLATOR, CLASS 'C'

OPERATING CONDITIONS

f	30	MHz
P_{out}	247.5	kW
P_{out} (less P_{drive})	240	kW
P_{load}	215*	kW
Duty factor	1.0	
η_a	75.2	%
V_a	14	kV
I_a	23.5	A
$-V_g$	900	V
I_g on load	6.0	A
off load	6.4	A
R_{g-f}	150	Ω
Feedback ratio $v_{in(pk)}/v_{a(pk)}$	0.11	
P_{drive}	7.5	kW
p_a	81.5	kW

*Cavity circuit, 90% transfer

RATINGS (ABSOLUTE MAXIMUM SYSTEM)

f max.	30	MHz
V_a max.	16.8	kV
P_{in} max.	375	kW
$-V_g$ max.	2.0	kV
I_g max. on load	7.0	A
off load	8.5	A
I_k max.	34	A
$i_{k(pk)}$ max.	160	A
p_a max.	120	kW
p_g max.	3.0	kW
R_{g-f} max.	10	kΩ

CATHODE

Directly heated, thoriated tungsten

V_f	12.6	V
I_f	380	A
$i_{f(pk)}$ max. (starting)	1.0	kA
r_f (cold)	0.0036	Ω

CAPACITANCES

c_{a-g}	60	pF
c_{a-f}	3.0	pF
c_{g-f}	185	pF

CHARACTERISTICS (measured at $V_a = 13kV$, $I_a = 11A$)

g_m	200	mA/V
μ	33	

MOUNTING POSITION Vertical, anode up or down

COOLING

Anode-water cooled with integral cooler

Seals -low velocity air flow or water cooled connectors

Temperatures

Anode seal max.	200	°C
Grid seal max.	200	°C
Filament seals max.	200	°C
Envelope max.	200	°C
Water inlet max.	50	°C

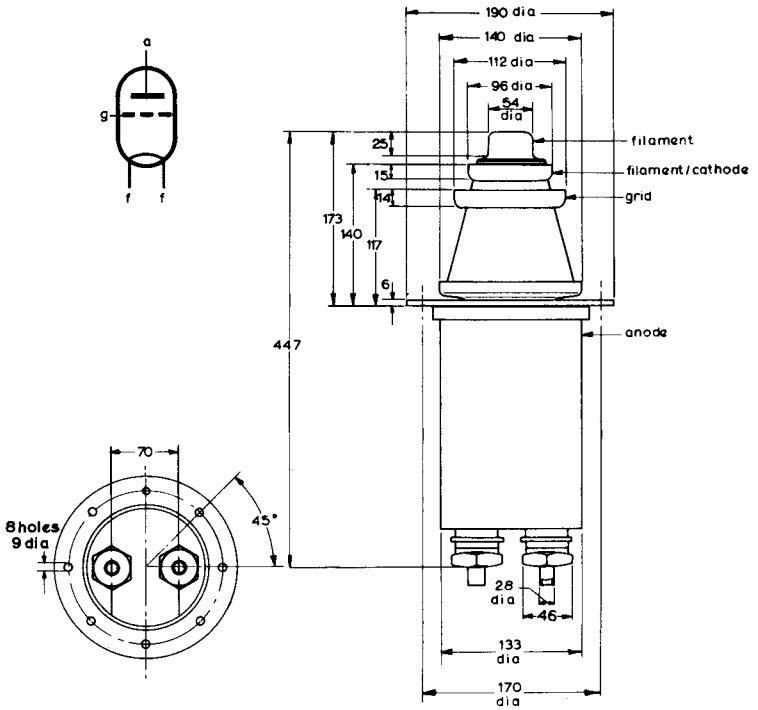
WATER COOLING CHARACTERISTICS

Anode Dissipation (kW)	Inlet Temperature (°C)	Rate of flow (l/min)	Inlet Pressure (atm)	Outlet Temperature (°C)
120	20	60	0.65	50

ACCESSORIES

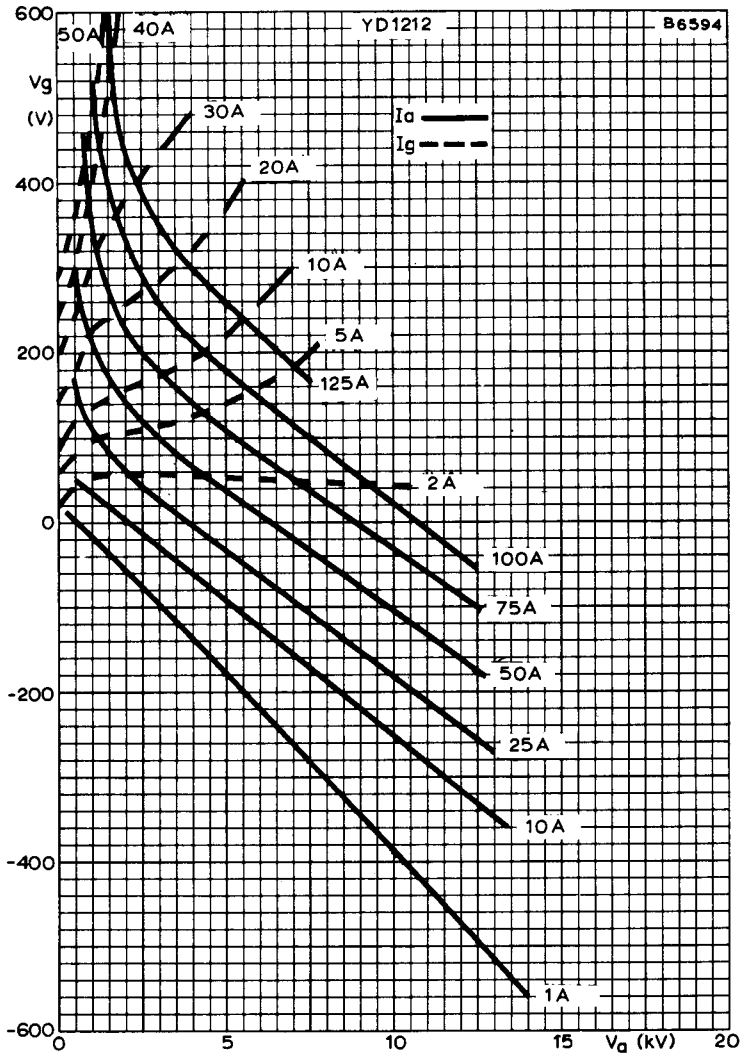
Grid connector, f ≤4.0MHz	40694
Filament connectors (both types required)	40695 and 40696
Filament cables	40716 and 40717

OUTLINE DRAWING OF YD1212



All dimensions in mm.

B6398



CONSTANT CURRENT CHARACTERISTICS