

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)

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

CATHODE

Directly heated, thoriated tungsten

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

CAPACITANCES

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

CHARACTERISTICS (measured at $V_a = 13\text{kV}$, $I_a = 11\text{A}$)

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

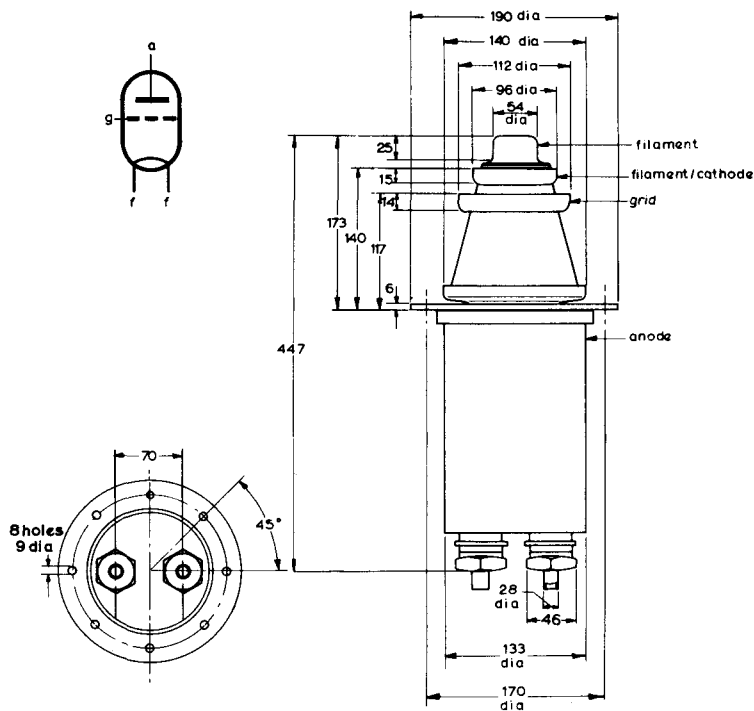
WATER COOLING CHARACTERISTICS

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

ACCESSORIES

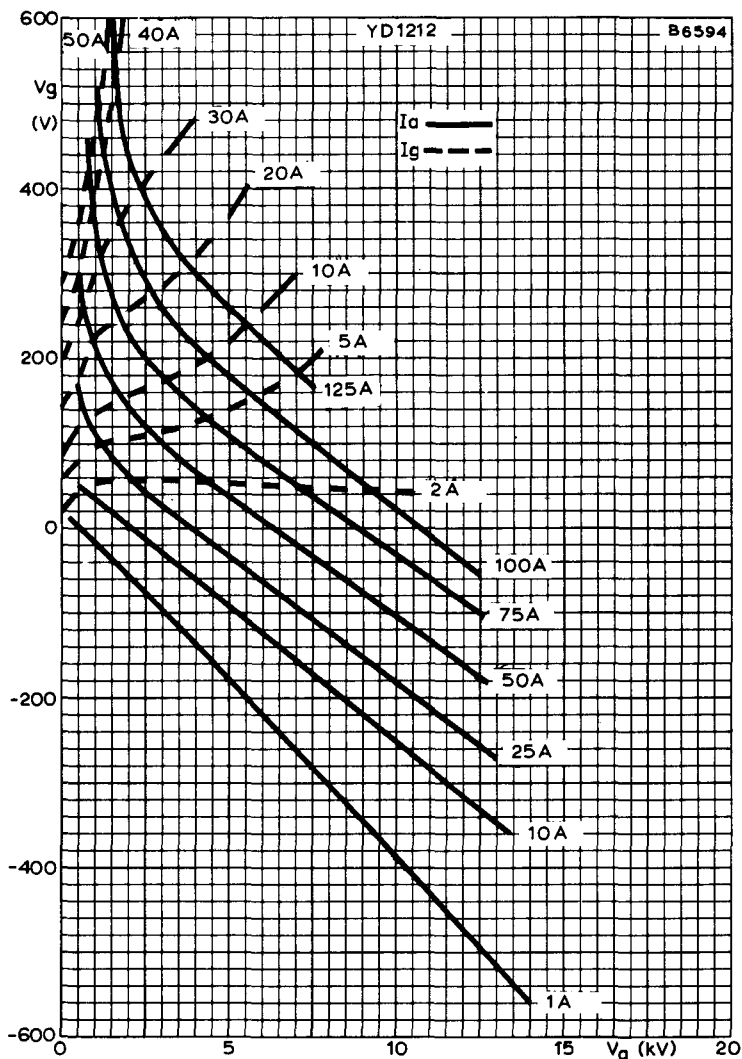
Grid connector, $f \leq 4.0\text{MHz}$	40694
Filament connectors (both types required)	40695 and 40696
Filament cables	40716 and 40717

OUTLINE DRAWING OF YD1212



All dimensions in mm.

86399



CONSTANT CURRENT CHARACTERISTICS