

DOUBLE DIODE OUTPUT PENTODE

UBL21

High-sensitivity output pentode combined with twin diodes for use in D.C./A.C. mains-operated equipment.

HEATER

This valve is suitable for a.c./d.c. operation.

I_h	0.1	A
V_h	55	V

CAPACITANCES

$C_{a'd-ap}$	< 0.06	$\mu\mu F$
$C_{a''d-ap}$	< 0.02	$\mu\mu F$
$C_{a'd-g1}$	< 0.1	$\mu\mu F$
$C_{a''d-g1}$	0.05	$\mu\mu F$
$C_{a'd-k}$	1.8	$\mu\mu F$
$C_{a''d-k}$	2.0	$\mu\mu F$
$C_{a'd-a''d}$	< 0.15	$\mu\mu F$

Pentode Section

C_{ap-g1}	< 1.2	$\mu\mu F$
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TYPICAL OPERATION AS CLASS "A" AMPLIFIER (Single Valve)

V_a	100	180	200	V
V_{g2}	100	180	200	V
R_k	140	140	200	Ω
V_{g1}	-5.3	-10	-13	V
I_a	32.5	61	55	mA
I_{g2}	5.5	10	9.5	mA
g_m	7.5	9.0	8.0	mA/V
r_a	25	22	25	k Ω
μ_{g1-g2}	9.0	9.0	9.0	
R_a	3.0	3.0	3.5	k Ω
$V_{in(r.m.s.)} (P_{out}=50 \text{ mW})$	0.55	0.5	0.5	V
$P_{out} (D_{tot}=10\%)$	1.35	4.8	4.8	W
$V_{in(r.m.s.)} (D_{tot}=10\%)$	3.8	6.2	6.2	V

LIMITING VALUES—Pentode Section

$V_{a(b)} \text{ max.}$	550	V
$V_a \text{ max.}$	250	V
$p_a \text{ max.}$	11	W
$V_{g2(b)} \text{ max.}$	550	V
$V_{g2} \text{ max.}$	250	V
$p_{g2} \text{ max. (max. sig.)}$	3.5	W
$p_{g2} \text{ max. (zero sig.)}$	1.9	W
$I_k \text{ max.}$	75	mA
$V_{g1} \text{ max. (} I_{g1}=+0.3 \mu A \text{)}$	-1.3	V
$R_{g1-k} \text{ max.}$	1.0	M Ω
$R_{h-k} \text{ max.}$	20	k Ω
$V_{h-k} \text{ max.}$	150	V

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LIMITING VALUES—Diode Section

$V_{ad(pk)}$	200	V
$I_{ad} \text{ max.}$	0.8	mA
$V_{ad} \text{ max. (} I_{ad} = +0.3 \mu\text{A)}$	-1.3	V

