

PENTODE

EF98

Pentode for use as an oscillator, r.f. or i.f. amplifier or as a transistor driver, in equipment operating directly from a 6V, 12V or 24V battery, on or off charge.

HEATER

V_h	6.3	V
I_h	300	mA

CAPACITANCES

C_{out}	4	pF
C_{in}	6.7	pF
C_{a-g1}	15	mpF
C_{g1-g2}	3	pF

CHARACTERISTICS

V_a	6.3	12.6	25	V
V_{g3}	0	0	0	V
V_{g2}	3.2	6.3	6.3	V
$*V_{g1}$	*	*	*	V
I_a	0.6	2.0	2.2	mA
I_{g2}	200	700	600	μA
g_m	1.0	2.0	2.1	mA/V
r_a	100	200	90	k Ω
μ_{g1-g2}	3.2	4.1	4.1	←

*Obtained by grid current biasing $R_{g1} = 10M\Omega$

OPERATING CHARACTERISTICS AS A TRANSISTOR DRIVER STAGE

Tetrode connection ($g3$ connected to anode)

V_a	6.3	12.6	25	V
V_{g3}	6.3	12.6	25	V
V_{g2}	6.3	12.6	12.6	V
V_{g1}	*	*	*	V
R_a	5.8	6.0	8.0	k Ω
$I_{a+g3(max. sig.)}$	1.1	2.1	3.0	μA
$V_{in(r.m.s.)}$	0.4	1.0	1.2	V
$P_{out} (D_{tot} = 10\%)$	1.2	11	30	mW

*Obtained by grid current biasing $R_{g1} = 10M\Omega$

OPERATING CONDITIONS AS A TRANSISTOR DRIVER STAGE

(driven by triode section of ECH83)

Tetrode connection (g_3 connected to a) with grid current biasing.

V_a	12	V
V_{g3}	12	V
V_{g2}	12.6	V
R_{g1}	10	M Ω
R_a	4.5	k Ω
$I_{a+g3(0)}$	5.5	mA
$I_{a+g3(\text{max. sig.})}$	3.0	mA
$I_{g2(0)}$	2.1	mA
$I_{g2(\text{max. sig.})}$	1.6	mA
$\dagger V_{in}$	155	mV
P_{out} ($D_{tot} = 10\%$)	13	mW

$\dagger$ Input voltage for triode section of ECH83 operated under the following conditions:

V_b	12.6	V
R_a	150	k Ω
R_{g1}	10	M Ω
V_{out}/V_{in}	8	

OPERATING CONDITIONS AS R.F. MIXER (r.f. voltage on g_1 , oscillator voltage on g_3)

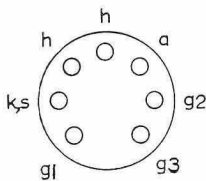
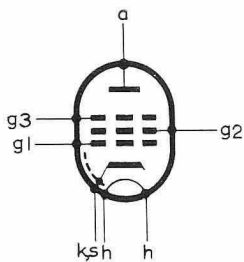
$V_a = V_b$	6.3	12.6	25	V
R_{g3}	100	100	100	k Ω
R_{g2}	12	6.8	22	k Ω
$V_{osc(r.m.s.)}$	6.0	6.0	12	V
V_{g1}	*	*	*	V
I_a	0.25	1.05	1.1	mA
I_{g2}	300	950	900	μ A
g_c	310	675	705	μ A/V
r_a	80	45	65	k Ω

*Obtained by grid current biasing, $R_{g1} = 10\text{M}\Omega$.

LIMITING VALUES

V_a max.	50	V
p_a max.	500	mW
V_{g3} max.	50	V
V_{g2} max.	50	V
p_{g2} max.	500	mW
I_k max.	15	mA
R_{g1} max.	22	M Ω
R_{g3} max.	100	k Ω
V_{h-k} max.	50	V

5101



B7G Base

