DATA BOOK 1965-66

Mullard Pocket Data Book

1965/66 Edition

Mullard Ltd.,

Mullard House, Torrington Place, London, W.C.1

FOREWORD

The Mullard Pocket Data Book is presented so as to provide easy reference to the valves, cathode ray tubes, semiconductor devices and components in the Mullard range with which the Service Engineer is most concerned. It is suggested that previous editions of the Pocket Data Book are retained for reference to obsolescent types, a list of which is contained in this edition. Information on these types may also be found in the original edition of the Mullard Maintenance Manual.

The Equivalents List may be removed from the main book if desired.

The Data Book has been prepared by Central Technical Services, Mullard Ltd., who also publish the Mullard Technical Handbook on a subscription basis. Details of this service and further data on individual types may be obtained from this department.

CONTENTS

THE LATEST MULLARD INTRODUCTIONS

AC128/AC176—These two transistors form part of the new Mullard harmonious range of audio transistors. When used as a complementary output pair they make possible the design of transformerless amplifier circuits, and 3W output (speech and music) are obtainable in Class 'B' operation in mains-powered equipment.

AU103—A television line output transistor for transistorised portable television receivers. The AU103 has been developed for use in conjunction with the efficiency diode BY118.

A47-14W/A59-15W—In collaboration with leading setmakers, Mullard have deepened the tint of the faceplates on the current range of television picture tubes. This gives improved picture contrast ratio and reduces reflections caused by ambient room and window lighting.
'Radiant Screen' tubes are marketed under the following new type numbers: 19-inch A47-14W and 23-inch A59-15W. These were formerly AW47-91 and AW59-91 respectively.

BF109—The BF109 is a video output transistor manufactured by the silicon mesa technique. It is designed for use in hybrid and fully transistorised television receivers to meet the requirements of high voltage rating and dissipation with low feedback capacitance.

BY118—The BY118 efficiency diode has been designed for use with the AU103 line output transistor and is recommended for use in transistorised portable television receivers. The diode has reverse voltage rating of 300V and a current rating of 14A associated with fast switching characteristics and low forward voltage drop.

BYX10—A high voltage silicon diffused rectifier enclosed in a plastic encapsulation and designed for use in transistor television receivers. It is employed to produce h.t. supplies (from the line output stage) for the first anode and the focus electrode of the picture tube, and also an h.t. supply for the video output stage.

TOP TEN PLUS

This Data Book contains information on over 100 types of valves, however it should be remembered that the bulk of valves in use is made up by a comparatively few popular and regularly stocked types. This is why Mullard introduced the TOP TEN PLUS, to enable you to keep a compact stock of valves which will meet most of your servicing requirements.

The Mullard Top Ten Plus can be purchased through your wholesaler in convenient sleeves of three. Place a regular stock order now with your supplier for the following types:

ECC82	EY86	PCL83
ECL80	PCC84	PL81
EF80	PCF80	PY33
EY51	PCL82	PY81

ALWAYS ORDER MULLARD VALVES BY NAME AS WELL AS TYPE NUMBER

MULLARD TECHNICAL PUBLICATIONS

All of the following publications are available through normal trade channels or direct from Home Trade Sales Division, Mullard House, at the usual trade discount. When ordering only one copy direct from Mullard Limited, the cost of postage and packing should be added.

THE MULLARD MAINTENANCE MANUAL—SECOND EDITION

A "must" for the service department, this Manual contains information on all current replacement types of valve, tube, and semiconductor with a continuous supplementary data sheet service. Retail price 16s. 0d. Postage 1/- extra.

TRANSISTOR RADIOS—CIRCUITRY AND SERVICING

Contents include a simple explanation of how a transistor works, the complex manufacturing processes involved in producing transistors, care and methods of repairing printed wiring boards, various circuits for transistor radios, servicing, test equipment, etc. Retail price 5s. 0d. Postage 6d. extra.

MULLARD CIRCUITS FOR AUDIO AMPLIFIERS

Mullard high-quality audio circuits—this book has already proved itself a best-seller among all amateur radio and hi-fi reproduction enthusiasts. Retail price 8s. 6d. Postage 6d. extra.

REFERENCE MANUAL OF TRANSISTOR CIRCUITS

Descriptions of more than 60 circuits covering both domestic and industrial applications. Retail price 12s. 6d. Postage 1/- extra.

SYMBOLS & ABBREVIATIONS

1. **Base and Connections**

a	Anode.
B	Base.
C	Collector.
E	Emitter.
f	Filament.
f+	Filament positive.
f−	Filament negative.
fct	Filament centre tap.
g	Grid.
h	Heater.
hct	Heater centre tap.
htap	Heater tap.
IC	Internal connection (must not be connected externally).
k	Cathode.
M	Metallising (external) or base sleeve.
NC	No connection.
NP	No pin.
s	Internal shield.
t	Fluorescent screen or target.

NOTE 1—In valves having more than one grid, the grids are distinguished by numbers: g1, g2, etc., g1 being the grid nearest the cathode.

NOTE 2—In multiple valves, electrodes of the different sections are distinguished by adding one of the following letters:

Diode	d
Triode	t
Pentode...	p
Hexode...	h
Heptode	h
Octode	h

Thus the grid of the triode section of a triode pentode is denoted by gt.

NOTE 3—Two or more similar electrodes which cannot be distinguished by any of the above means may be denoted by adding one or more primes to indicate of which electrode system the electrode forms a part. Thus, the anode of the first diode in a double diode valve is denoted by a′.

2. Characteristics

f	Frequency.
gc	Conversion conductance.
gm	Mutual conductance.
Ia	Anode current.
ia(pk)max. ...	Maximum peak anode current.
Ia(av)max. ...	Maximum mean anode current.
Ic	Collector current.
I_{CBO}	Collector cut-off current (common base).
If	Filament current.
Ig2	Screen-grid current.
Ig2+g4 ...	Screen-grid current (frequency changers).
Ih	Heater current.
Iout max. ...	Maximum output current.
It	Target current (tuning indicators).
pa max. ...	Maximum anode dissipation.
Ptot max. ...	Maximum total dissipation.
P.I.V. max. ...	Maximum peak inverse voltage.
Pout	Power output (for 10% distortion).
ra	Anode impedance.
Ra	Anode load.
Tamb ...	Ambient temperature.
Va	Anode voltage.
va(pk)max. ...	Maximum peak anode voltage.
Vb	Supply voltage.
V_{CE}	Collector-emitter voltage.
V_{CB}	Collector-base voltage.
Vf	Filament voltage.
Vg1	Negative grid voltage.
Vg2	Screen-grid voltage.
Vg2+g4 ...	Screen-grid voltage (frequency changers).
Vh	Heater voltage.
vh−k(pk)max.	Maximum peak voltage between heater and cathode.
hfe	Small signal current amplification factor (common emitter).
h_{FEL} ...	Large signal current amplification factor (common emitter).
µ	Amplification factor.
θj-amb, θj-case	Thermal resistance.

DATA SECTION

LIST OF EARLIER TYPES AND TYPES NOT IN COMMON USE

(*See Foreword*)

AZ1
AZ31
AZ41

CCH35
CL33

DA90
DAC32
DAF91
DCC90
DF33
DF64
DF66
DF91
DF92
DF97
DK32
DK40
DK91
DL33
DL35
DL64
DL68
DL92
DL93
DM70
DM71
DW4–350
DW4–500

EA50
EAC91
EAF42
EB34
EB41
EBC33
EBC90
EBC91
EBCH12
EBL21
EC52
EC90
EC91
EC92
ECC32
ECC33
ECC34
ECC35
ECC40
ECC91
ECH3
ECH21
ECH35
EF9
EF22
EF37A
EF39
EF40
EF41
EF42
EF50
EF55
EF92
EF93
EF94
EF98
EK90
EL32
EL33
EL36
EL37
EL38
EL41
EL42
EL83
EL85
EL86
EL90
EL91
EL821
EM34
EY81
EY91
EZ35
EZ40
EZ41
EZ90

FC4
FW4–500
FW4–800

GZ30
GZ32
GZ33
GZ37

IW4–350
IW4–500

MW6–2
MW22–16
MW31–74
MW41–1
MW43–43

OA47
OA71
OC57
OC58
OC59
OC60
OC65
OC66

PC95
PEN4DD
PENA4
PL33
PL38
PY31
PY32
PY80
PZ30

TY86F

UAF42
UB41

UBL21
UC92
UCH21
UF42
UF85
UF86
UL44
UL46
UM4
UR1C
UY1N

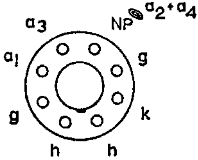
VP4B

1C5G/GT
1H5G
1N5G
3Q5GT
5U4G
5V4G
5Z4GT
6A8G
6F6G
6J5G/GT
6SK7GT
6SN7GT
6V6G/GT
6X5GT
12J7GT
12K7GT
12Q7GT
12SK7GT
12SN7GT
25A6G
25L6GT
25Z4G
35Z5GT
42
50L6GT
80

A47-13W

47cm (19in) Television tube. Electrostatic focusing, 110° magnetic deflection angle. Metal-backed screen. Glass safety shield bonded to the faceplate.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	16	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−40 to −77	V

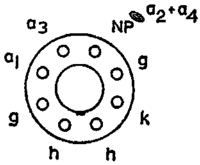


B8H

A47-18W

47cm (19in) Television tube. Electrostatic focusing, 110° magnetic deflection angle. Metal-backed screen and reinforced envelope. A separate safety screen is not required.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	18	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−40 to −77	V

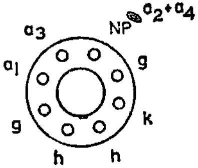


B8H

A59-11W

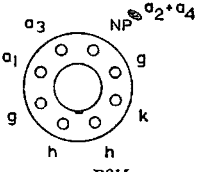
59cm (23in) Television tube. Electrostatic focusing, 110° magnetic deflection angle. Metal-backed screen and reinforced envelope. A separate safety screen is not required.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	18	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−40 to −77	V



B8H

A59-16W



B8H

59cm (23in) Television tube. Electrostatic focusing. 110° magnetic deflection angle. Metal-backed screen. Filter-glass safety panel bonded to the faceplate. Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	18	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	–40 to –77	V

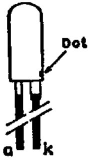
AA119—Germanium point-contact diode

AA119

At Tamb	25	60	°C
Max. reverse voltage			
Peak	45	45	V
*Average	30	30	V
Max. forward current			
Peak	100	100	mA
*Average	35	15	mA
Ambient temperature range			
Max.		+60	°C
Min.		–55	°C

*Averaged over any 50ms period or d.c. component.

AA129—Germanium junction diode (Bias voltage stabiliser)

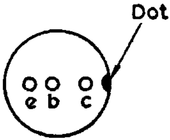


AA129

At Tamb = 25°C		
*Vd	175 to 230	mV
*Temperature Coefficient	–2·3	mV/°C
Id max.	20	mA
Tj max.		
Continuous operation	75	°C
Intermittent operation	90	°C
θj-amb	0·4	°C/mW
*Id = 5mA		

Low noise P-N-P alloy type junction transistor—AC107

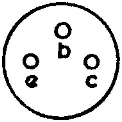
Measured at Tamb = 25°C		
V_{CB}	-5·0	V
I_C	0·3	mA
hfe	60	
Ptot max. (Tamb = 45°C)	50	mW
0j-amb	0·6	°C/mW



AC107
SO2/SB3-2

P-N-P Germanium alloy, medium power a.f. transistor—AC126

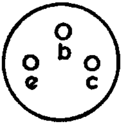
Measured at Tamb = 25C°		
V_{CB}	32	V
I_C	100	mA
hfe	180	
I_{CBO} (V_{CB} = −10V, I_E = 0mA)	<10	μA
Ptot. max. (Tj = 75°C)	500	mW
0j-amb in free air	0·3	°C/mW



TO–1
Construction

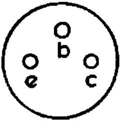
N-P-N Germanium alloy, medium power, a.f. transistor—AC127

Ptot max. (Tamb ⩽25°C)	340	mW
0j–amb in free air	0·37	°C/mW
V_{CB} max. (I_E = 0)	+32	V
I_{CM} max.	500	mA
h_{FE} typ (I_C = 500mA)	50	



TO–1
Construction

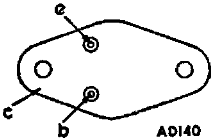
AC128, 2-AC128—P-N-P Germanium alloy high gain transistor. Class A and B output stages



TO–1
Construction

Measured at Tamb = 25°C		
V_{CB} (I_E = 0)	−32	V
I_{CM} max.	1	A
h_{FE} (I_E = 300 mA, V_{CB} = 0)	60 to 175	
I_{CBO} (V_{CB} = −10V, I_E = 0)	10	µA
Ptot max.	700	mW
θj-amb in free air	0·29	°C/mW

AD140—P-N-P power junction transistor

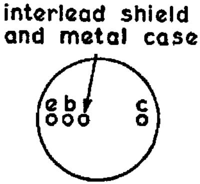


TO–3
Construction

Ptot max. (Tcase ⩽37·5°C)	35	W
θj-case	1·5	°C/W
V_{CB} max. (I_E = 0)	−55	V
*$I_{C(AV)}$ max.	3·0	A
h_{FEL}(I_C = 1A)	30–100	

*Averaged over any 20ms period.

AF102—P-N-P alloy diffused junction transistor



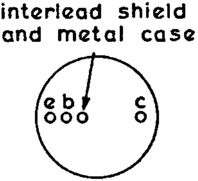
TO–7
Construction

Ptot max. (Tamb ⩽45°C)	50	mW
θj-amb	0·6	°C/mW
V_{CB} max. (I_E = 0)	−25	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CB} = −12V)	180	Mc/s
Cobs typ (I_E = 1·0mA, V_{CB} = −12V)	1·8	pF
hfe min. (I_E = 1·0mA, V_{CB} = −12V)	20	

R.F. P-N-P alloy diffused junction transistor—**AF114**

Ptot max. (Tamb $\leqslant$45°C)	50	mW
θj-amb	0·6	°C/mW
V_{CB} max. (I_E = 0)	–20	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CB} = 6V)	75	Mc/s
Cobs typ (I_E = 1·0mA, V_{CB} = 6V		
AF114 (100Mc/s)	2·5	pF
AF115 (100Mc/s)	2·5	pF

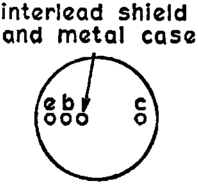
At frequencies below 10·7Mc/s the feedback capacitance in grounded emitter (Coes) is approximately 3·5pF, at I_E = 1.0 mA, VCB = 6V



TO–7
Construction

R.F. P-N-P alloy diffused junction transistor—**AF115**

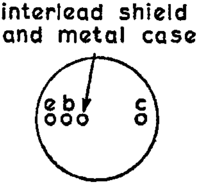
Measured at Tamb = 25°C		
V_{CB}	–20	V
$I_{C(AV)}$ max.	10	mA
f	1·0	kc/s
hfe	150	
Ptot max. (Tamb = 45°C)	50	mW
θj-amb	$\leqslant$0·6	°C/mW
Power gain (f = 100 Mc/s)	13	dB



TO–7
Construction

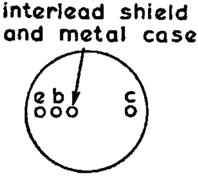
R.F. P-N-P alloy diffused junction transistor—**AF116**

Measured at Tamb = 25°C		
V_{CB}	–20	V
$I_{C(AV)}$ max.	10	mA
f	1·0	kc/s
hfe	150	
Ptot max. (Tamb = 45°C)	50	mW
θj-amb	$\leqslant$0·6	°C/mW
Power gain (f = 10·7 Mc/s)	25	dB



TO–7
Construction

AF117—R.F. P-N-P alloy diffused junction transistor

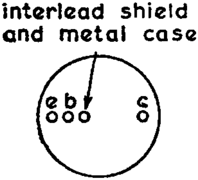


TO–7
Construction

Measured at T_{amb} = 25°C

V_{CB}	–20	V
$I_{C(AV)}$ max.	10	mA
f	1·0	kc/s
h_{fe}	150	
P_{tot} max. (T_{amb} = 45°C)	50	mW
$\theta_{j\text{-}amb}$	⩽0·6	°C/mW
Power gain (f = 450 kc/s)	42	dB

AF118—R.F. P-N-P alloy diffused junction transistor

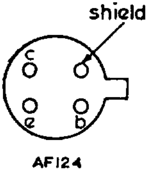


TO–7
Construction

Measured at T_{amb} = 25°C

V_{CB} max. (I_E=0)	–70	V
$I_{C(AV)}$ max.	·30	mA
f_T	175	Mc/s
h_{fe}	180	
P_{tot} max. (T_{amb} = 45°C)	250	mW
$\theta_{j\text{-}amb}$ (in free air)	0·25	°C/mW
$\theta_{j\text{-}amb}$ (with cooling fin)	0·12	°C/mW

AF124—R.F. P-N-P alloy diffused junction transistor



TO–18
Construction

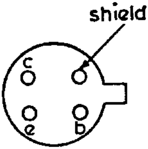
P_{tot} max. (T_{amb} ⩽45°C)	40	mW
$\theta_{j\text{-}amb}$	0·75	°C/mW
V_{CB} max. (I_E = 0)	–20	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CB} = –6V)	75	Mc/s
C_{obs} typ (I_E = 1·0mA, V_{CB} = –6V)		
AF124 (100Mc/s)	2·5	pF
AF125 (100Mc/s)	2·5	pF

At frequencies below 10·7 Mc/s the feedback capacitance in grounded emitter (C_{oes}) is approximately 3·5pF, at I_E = 1·0mA, V_{CE} = –6V.

R.F. P-N-P alloy diffused junction transistor—AF125

P_{tot} max. (T_{amb} $\leqslant$45°C)	40	mW
θ_{j-amb}	0·75	°C/mW
V_{CB} max. (I_E = 0)	–20	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CB} = –6V)	75	Mc/s
Cobs typ (I_E = 1·0mA, V_{CB} = –6V)		
AF124 (100Mc/s)	2·5	pF
AF125 (100Mc/s)	2·5	pF

At frequencies below 10·7 Mc/s the feedback capacitance in grounded emitter (Coes) is approximately 3·5pF, at I_E = 1·0mA, V_{CE} = –6V.



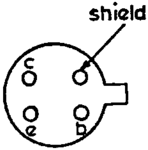
AF125

TO–18
Construction

R.F. P-N-P alloy diffused junction transistor—AF126

P_{tot} max. (T_{amb} $\leqslant$45°C)	40	mW
θ_{j-amb}	0·75	°C/mW
V_{CB} max. (I_E = 0)	–20	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CB} = –6V)	75	Mc/s
Cobs typ (I_E = 1·0mA, V_{CB} = –6V)		
AF124 (100 Mc/s)	2·5	pF
AF125 (100 Mc/s)	2·5	pF

At frequencies below 10·7 Mc/s the feedback capacitance in grounded emitter (Coes) is approximately 3·5pF, at I_E = 1·0mA, V_{CE} = –6V.



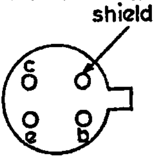
AF126

TO–18
Construction

R.F. P-N-P alloy diffused junction transistor—AF127

P_{tot} max. (T_{amb} $\leqslant$45°C)	40	mW
θ_{j-amb}	0·75	°C/mW
V_{CB} max. (I_E = 0)	–20	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CB} = –6V)	75	Mc/s
Cobs typ (I_E = 1·0mA, V_{CB} = –6V)		
AF124 (100 Mc/s)	2·5	pF
AF125 (100 Mc/s)	2·5	pF

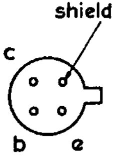
At frequencies below 10·7 Mc/s the feedback capacitance in grounded emitter (Coes) is approximately 3·5pF, at I_E = 1·0mA, V_{CE} = –6V.



AF127

TO–18
Construction

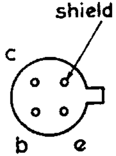
AF178—R.F. P-N-P alloy diffused junction transistor



AF178
TO–12
Construction

Measured at T_{amb} = 25°C		
V_{CB} max. (I_E=0)	–25	V
I_{CM} max.	10	mA
f	1·0	kc/s
hfe	>20	
f_T typ (I_E=1·0, V_{CB}=–12V)	180	Mc/s
Ptot max. (T_{amb} = ⩽45°C)	75	mW
θj-amb max.	0·6	°C/mW

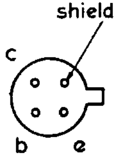
AF179—R.F. P-N-P alloy diffused junction transistor



AF179
TO–12
Construction

Measured at T_{amb} = 25°C		
V_{CB}	–25	V
I_{CM} max.	15	mA
I_B	40	μA
V_{BE}	–290 to –370	mV
Ptot max. (T_{amb} = 25°C)	140	mW
θj-amb	⩽0·32	°C/mW

AF180—R.F. P-N-P alloy diffused junction transistor



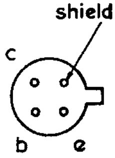
AF180
TO–12
Construction

Measured at T_{amb} = 25°C		
V_{CB} max. (I_E = 0)	25	V
I_{CM} max.	25	mA
f	200	Mc/s
Power gain	18	dB
Noise factor	6·0	dB
Ptot max. (T_{amb} = 25°C)	156	mW
θj-amb	0·32	°C/mW

R.F. P-N-P alloy diffused junction transistor—**AF181**

Measured at Tamb = 25°C

V_{CB} ($I_E = 0$)	30	V
I_{CM} max.	20	mA
f_1	180	Mc/s
Max. gain	35	dB
Control range	>56	dB
Ptot max. (Tamb = 25°C)	156	mW
θj-amb	⩽0·32	°C/mW

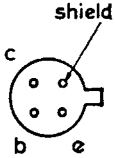


AF181
TO–12
Construction

R.F. P-N-P alloy diffused junction transistor—**AF186**

Measured at Tamb = 25°C

V_{CB}	25	V
I_{CM} max.	15	mA
f	800	Mc/s
Power gain	>8·0	dB
Noise factor (Rs = 50 Ω)	<10	dB
Ptot max. (Tamb = 45°C)	90	mW
θj-amb max.	0·5	°C/mW

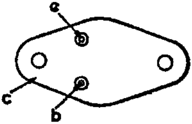


AF186
TO–18
Construction

Germanium P-N-P diffused alloy power transistor—**AU101**

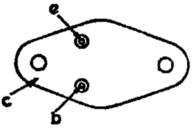
Measured at Tamb = 25°C

V_{CB}	120	V
I_C	10	A
h_{FE}	30	
I_{CBO} ($-V_{CB}$ = 120V I_E = 0mA)	<10	mA
Ptot max.	10	W
Tj max. (cont)	90	°C



TO–3
Construction

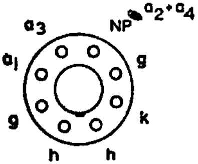
AU103—P-N-P Germanium alloy, power transistor for line deflection output stages



TO–3
Construction

Measured at Tamb = 25°C		
V_{CB} (I_E = 0)	155	V
I_C max.	10	A
h_{FE} min. (I_C = 10A, V_{CE} = −1·0V, Tj = 25°C)	15	
I_{CBO} (V_{CB} = −155V, I_E = 0)	10	mA
Ptot max. (Tamb ⩽85°C)	10	W
θj-amb max.	1·5	°C/W

AW21-11

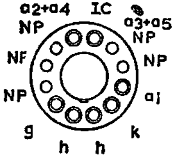


B8H
(Short spigot)

21cm (8¼in) Television tube for use in portable transistor receivers. Electrostatic focusing. 90° Magnetic deflection. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	11·5	V
Ih	60	mA
Va2 + a4	12	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−32 to −69	V

AW36-20



B12A

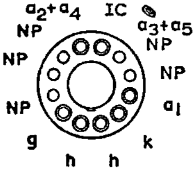
36cm (14in) Television tube. Electrostatic focusing. 70° magnetic deflection. Incorporates ion trap. Ion trap magnet IT9, centring magnet BC11. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3 + a5	12	kV
Va2 + a4 (focus electrode)	−55 to + 145	V
Va1	300	V
Vg1 for cut-off	−40 to −80	V

AW36-80

36cm (14in) Television tube. Electrostatic focusing. 90° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9. centring magnet BC11. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3 + a5	12	kV
Va2 + a4 (focus electrode)	−55 to + 145	V
Va1	300	V
Vg for cut-off	−40 to −80	V

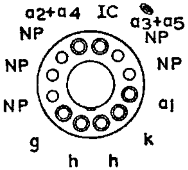


B12A

AW43-80

43cm (17in) Television tube. Electrostatic focusing. 90° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9, centring magnet BC11. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3 + a5	16	kV
Va2 + a4	0 to 200	V
Va1	300	V
Vg for cut-off	−40 to −80	V

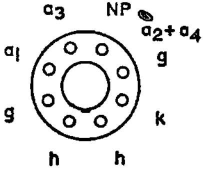


B12A

AW43-88

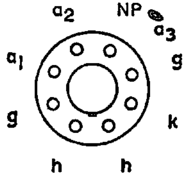
43cm (17in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	16	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−38 to −94	V



B8H

AW43-89

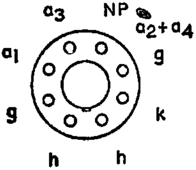


B8H

43cm (17in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Short neck. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	16	kV
Va2 (focus electrode)	0 to 400	V
Va1	500	V
Vg for cut-off	−35 to −75	V

AW47-90

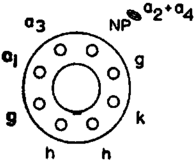


B8H

47cm (19in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	16	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−38 to −94	V

AW47-91
A47-14W



B8H

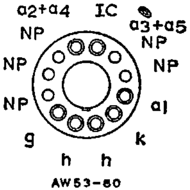
47cm (19in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	18	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−40 to −77	V

AW53-80

53cm (21in) Television tube. Electrostatic focusing. 90° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9, centring magnet BC11. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3 + a5	16	kV
Va2 + a4	0 to 200	V
Va1	300	V
Vg for cut-off	–40 to –80	V

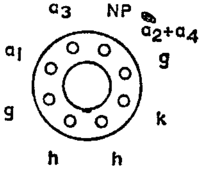


B12A

AW53-88

53cm (21in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	16	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	–38 to –94	V

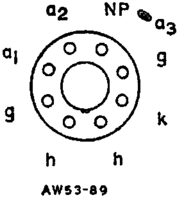


B8H

AW53-89

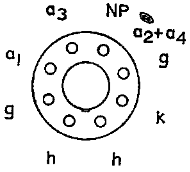
53cm (21in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Short neck. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	16	kV
Va2 (focus electrode)	0 to 400	V
Va1	500	V
Vg for cut-off	–35 to –75	V



B8H

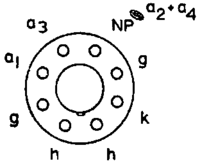
AW59-90



59cm (23in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Metal-backed screen. Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	16	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−38 to −94	V

AW59-91
A59-15W



B8H

58cm (23in) Television tube. Electrostatic focusing. 110° Magnetic deflection. Metal-backed screen. Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2 + a4	18	kV
Va3 (focus electrode)	0 to 400	V
Va1	400	V
Vg for cut-off	−40 to −77	V

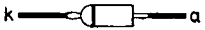
BA114—Silicon junction diode

At Tamb = 25°C

Vd (Id = 0·2mA)	>0·5	V
Vd (Id = 3·0mA)	<0·8	V.
Id max.	20	mA
Tamb max.	+ 90	°C
Tamb min.	−55	°C
θj-amb (in free air)	<0·4	°C/mW

Gold-bonded silicon diode—**BA115**

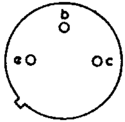
Max. reverse voltage	150	V
Max. forward current		
Peak	50	mA
Average	2·0	mA
Max. V_F at I_F of (at Tamb = 25°C)		
100μA	0·8	V
10mA	3·0	V
Tamb max.	70	°C



N-P-N Silicon mesa transistor for video output stages—**BF109**

Measured at Tamb = 25°C

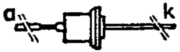
V_{CB} max. (I_E = 0)	+ 135	V
I_{CM} max.	50	mA
h_{FE} (V_{CB} = +10V, I_C = 10 mA)	20	
I_{CBO} (V_{CB} = +135, I_E = 0)	100	μA
Ptot max.	1·2	W
f_T min.	80	Mc/s
θj-amb (in free air)	250	°C/W



BF109
TO–5
Construction

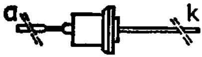
Silicon junction mains rectifier—**BY100**

Max. recurrent P.I.V.	800	V
Max. average forward current		
Tamb ≤50°C	550	mA
Tamb >50°C	450	mA
Max. surge current (max. duration = 10ms)	55	A
Max. recurrent peak	5·0	A
Max. reverse current at reverse voltage of 800V	10	μA
Max. forward voltage at forward current = 5·0A	1·5	V
Tamb max.	70	°C



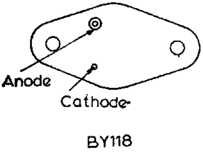
IMPORTANT: The metal envelope is in contact with the cathode connection—it should never be connected directly to the receiver chassis.

BY114—Silicon junction rectifier



Max. recurrent P.I.V.	450	V
Max. average forward current	550	mA
Max. surge current (max. duration 10ms)	55	A
Max. recurrent peak	5·0	A
Max. reverse current at reverse voltage of 450V	10	µA
Max. forward voltage at forward current of 5·0A	1·5	V
Tamb max.	70	°C

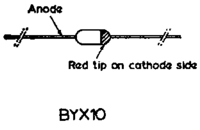
BY118—Silicon rectifier diode, for line deflection circuits



SO55/SB2-5
Construction

V_{RRM} max.	300	V
I_F (AV) max.	5	A
V_F max. (T_j = 25°C, I_F = 14A)	1·2	V
I_R max. (T_j = 25°C, V_{RM} = 300V)	100	µA
T_j max.	150	°C
θj-amb max.	5	°C/W

BYX10—Silicon rectifier diode. Plastic encapsulation

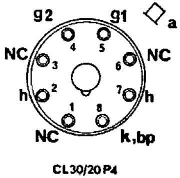


DO–14
Construction

V_{RWM} max.	800	V
V_{RRM} max.	1·6	kV
I_F (AV) max.	200	mA
V_F (T_j = 25°C, I_F = 1·5A)	1·6	V
I_R (T_j = 125°C, V_{RWM} = 800 V)	50	µA
T_j max.	125	°C
θj-amb	0·2	°C/W

Line output beam tetrode (pa max. = 10W)—**CL30/20P4**

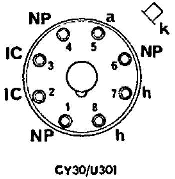
Ih	200	mA
Vh	38	V
Va max.	400	V
Vg2 max.	250	V
+va(pk)max.	6·0	kV
Ik max.	150	mA
pg2 max.	4·0	W



Octal

Efficiency diode—**CY30/U301**

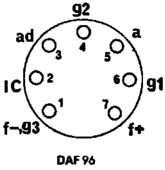
Ih	200	mA
Vh	28	V
P.I.V. max.	4·5	kV
Ia max.	150	mA
V(h-k) max.	900	V



Octal

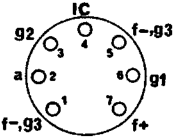
Single diode a.f. pentode—**DAF96**

Vf	1·4	V
If	25	mA
Va	67·5	V
Vg2	67·5	V
Vg1	−1·5	V
Ia	170	µA
Ig2	55	µA
gm	170	µA/V
µg1−g2	16	



B7G

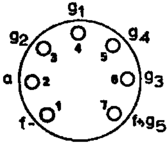
DF96—I.F. pentode



DF96
B7G

Vf	1·4		V
If	25		mA
Va = Vb	64	85	V
Rg2	0	39	kΩ
Vg1	0	0	V
Vg2	64	64	V
Ia	1·65	1·65	mA
Ig2	550	550	μA
gm	850	850	μA/V
μg1–g2	18	18	

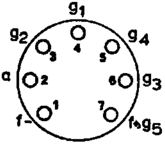
DK92—Heptode frequency changer



DK92
B7G

Vf	1·4	V
If	50	mA
Va = Vb	85	V
Vg3	0	V
Rg4	180	kΩ
Rg2	33	kΩ
Rg1–f+	27	kΩ
Vosc	4·0	V
Ik	2·55	mA
Ia	700	μA
Ig4	150	μA
Ig2	1·6	mA
Ig1	100	μA
gc	325	μA/V

DK96—Heptode frequency changer

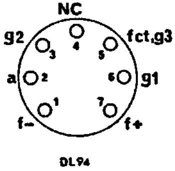


DK96
B7G

Vf	1·4		V
If	25		mA
Va = Vb	64	85	V
Vg3	0	0	V
Rg4	0	120	kΩ
Rg2	18	33	kΩ
Rg1–f+	27	27	kΩ
Vosc	4·0	4·0	V
Ik	2·45	2·4	mA
Ia	550	600	μA
Ig4	120	140	μA
Ig2	1·6	1·5	mA
Ig1	85	85	μA
gc	275	300	μA/V

Output pentode—DL94

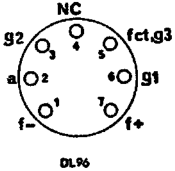
	Filament connection Series	Parallel	
Vf	2·8	1·4	V
If	50	100	mA
Va	90	90	V
Vg2	90	90	V
Vg1	−4·5	−4·5	V
Ia	7·7	9·5	mA
Ig2	1·7	2·1	mA
gm	2·0	2·15	mA/V
Ra	10	10	kΩ
Pout	240	270	mW



B7G

Output pentode—DL96

	Series	Parallel	
Vf	2·8	1·4	V
If	25	50	mA
Parallel filament connection			
Vb	67·5	90	V
Va	64	85	V
Vg2	64	85	V
Vg1	−3·3	−5·2	V
Ia	3·5	5·0	mA
Ig2	650	900	µA
gm	1·3	1·4	mA/V
Ra	15	13	kΩ
Pout	100	200	mW



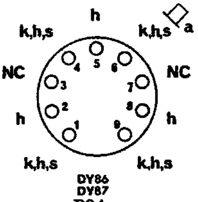
B7G

E.H.T. half-wave rectifiers—DY86, DY87

Vh	1·4	V
Ih	550	mA
Pulsed input P.I.V. max.	22	kV
ia(pk) max.	40	mA
Iout max.	500	µA
C max.	2000	pF

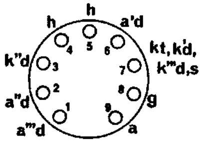
Pins 3 and 7 may only be connected to points in the heater circuit and must not be earthed.

Note: DY87 is electrically identical to DY86 but has a chemically treated bulb to prevent flash-over under conditions of high humidity.



B9A

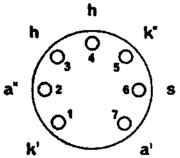
EABC80—Triple diode triode



EABC80
B9A

Vh	6·3		V
Ih	450		mA
Va	100	250	V
Vg	−1·0	−3·0	V
Ia	0·8	1·0	mA
gm	1·45	1·4	mA/V
μ	70	70	

EB91—Double diode (separate cathodes)

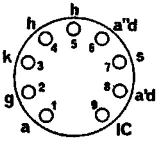


EB91
B7G

Vh	6·3	V
Ih	300	mA
*P.I.V. max.	420	V
*Ia max.	9·0	mA
*Ia(pk) max.	54	mA
*vh–k(pk) max.	330	V

*Each section

EBC81—Double diode triode

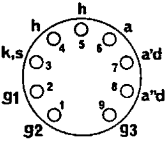


EBC81
B9A

Vh	6·3	V
Ih	230	mA
Va	250	V
Vg	−3·0	V
Ia	1·0	mA
gm	1·2	mA/V
μ	70	

Double diode pentode—**EBF80**

Vh	6·3	V
Ih	300	mA
Va = Vb	250	V
Rg2	95	kΩ
Vg2	85	V
Vg3	0	V
Rk	300	Ω
Ia	5·0	mA
Ig2	1·75	mA
gm	2·2	mA/V
µg1–g2	18	

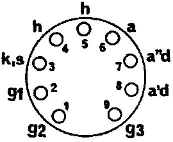


EBF80

B9A

Double diode pentode for use in hybrid car radios—**EBF83**

Vh	6·3			V
Ih	300			mA
Va	6·3	12·6	25	V
Vg3	0	0	0	V
Vg2	6·3	12·6	25	V
Rg1	2·2	2·2	2·2	MΩ
Ia	0·12	0·45	1·7	mA
Ig2	0·04	0·14	0·5	mA
gm	0·45	1·0	2·1	mA/V
ra	0·65	1·0	0·2	MΩ

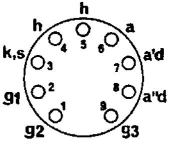


EBF83

B9A

Double diode variable-mu r.f. pentode—**EBF89**

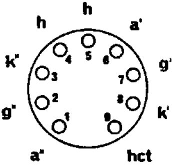
Vh	6·3		V
Ih	300		mA
Va	250	250	V
Vg3	0	0	V
Vg2	80	100	V
Vg1	–1·0	–2·0	V
Ia	9·0	9·0	mA
Ig2	2·7	2·7	mA
gm	4·5	3·8	mA/V
ra	0·9	1·0	MΩ
µg1–g2	20	20	



EBF89

B9A

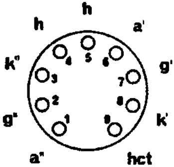
ECC81—R.F. double triode (separate cathodes)



ECC81
B9A

	Series	Parallel	
Vh	12·6	6·3	V
Ih	150	300	mA
Characteristics (each section)			
Va	200	250	V
Vg	−1·0	−2·0	V
Ia	11·5	10	mA
gm	6·7	5·5	mA/V
μ	70	60	

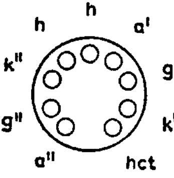
ECC82—Double triode (separate cathodes)



ECC82
B9A

	Series	Parallel	
Vh	12·6	6·3	V
Ih	150	300	mA
Characteristics (each section)			
Va	100	250	V
Vg	0	−8·5	V
Ia	11·8	10·5	mA
gm	3·1	2·2	mA/V
μ	19·5	17	

ECC83—Double triode (separate cathodes)

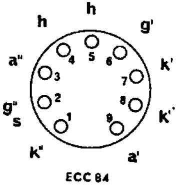


ECC83
B9A

	Series	Parallel	
Vh	12·6	6·3	V
Ih	150	300	mA
Characteristics (each section)			
Va	100	250	V
Vg	−1·0	−2·0	V
Ia	0·5	1·2	mA
gm	1·25	1·6	mA/V
μ	100	100	

R.F. double triode (separate cathodes)—ECC84

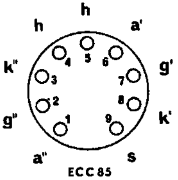
Vh	6·3	V
Ih	330	mA
Characteristics each section)		
Va	90	V
Vg	−1·5	V
Ia	12	mA
gm	6·0	mA/V
μ	24	



B9A

R.F. double triode (separate cathodes)—ECC85

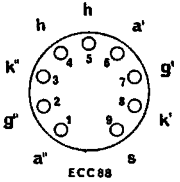
Vh	6·3	V
Ih	435	mA
Characteristics (each section)		
Va	250	V
Vg	−2·3	V
Ia	10	mA
gm	5·9	mA/V
μ	57	



B9A

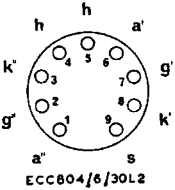
V.H.F. double triode (separate cathodes)—ECC88

Vh	6·3	V
Ih	365	mA
Characteristics (each section)		
Va	90	V
Vg	−1·3	V
Ia	15	mA
gm	12·5	mA/V
μ	33	



B9A

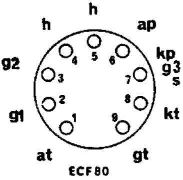
ECC804/6/30L2—Double triode (separate cathodes)



Vh	6·3	V
Ih	300	mA
Characteristics (each section)		
Va	200	V
Vg	–7·7	V
Ia	10	mA
gm	3·4	mA/V
μ	18	

B9A

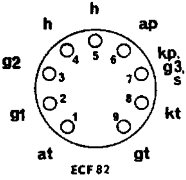
ECF80—Triode pentode (separate cathodes)



B9A

	Triode	Pentode	
Vh	6·3		V
Ih	430		mA
Va	100	250	V
Vg2	—	200	V
Vg1	–2·0	3·2	V
Ia	14	7·0	mA
Ig2	—	1·8	mA
gm	5·0	5·5	mA/V
μ	20	—	

ECF82—Triode pentode (separate cathodes)

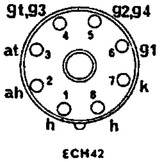


B9A

	Triode	Pentode	
Vh	6·3		V
Ih	450		mA
Va	150	250	V
Vg2	—	110	V
Vg1	–1·0	–0·9	V
Ia	18	10	mA
Ig2	—	3·5	mA
gm	8·5	5·2	mA/V
μ	40	—	

Triode hexode frequency changer—ECH42

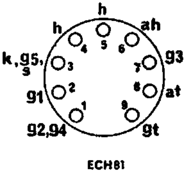
Vh	6·3	V
Ih	230	mA
Vah = Vb	250	V
Vg2 + g4	85	V
Rk	180	Ω
Rg3 + gt	47	k Ω
Ig3 + gt	200	μA
Iah	3·0	mA
Ig2 + g4	3·0	mA
gc	750	μA/V
Vat	90	V
Iat	4·8	mA



B8A

Triode heptode frequency changer—ECH81

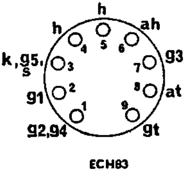
Vh	6·3	V
Ih	300	mA
Vah = Vb	250	V
Rg2 + g4	22	k Ω
Rg3 + gt	47	k Ω
Rk	140	Ω
Iah	3·25	mA
Ig2 + g4	6·7	mA
Ig3 + gt	200	μA
gc	775	μA/V
Vat	100	V
Iat	4·5	mA



B9A

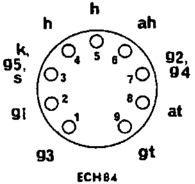
Triode heptode for use in hybrid car radios—ECH83

Vh	6·3	V
Ih	300	mA
Vah = Vb	12·6	V
Vg2 + g4	12·6	V
Vg1	0	V
Iah	100	μA
Ig2 + g4	350	μA
Ig3 + gt	32	μA
Vosc(r.m.s.)	1·2	V
gc	160	μA/V
ra	3·8	M Ω
Vat = Vb	12·6	V
Iat	750	μA



B9A

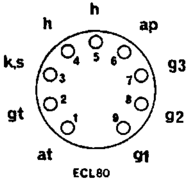
ECH84—Triode heptode for noise cancelled sync. separator



B9A

	Triode	Heptode	
Vh	6·3		V
Ih	300		mA
Va	50	135	V
Vg3	—	0	V
Vg2 + g4	—	14	V
Vg1	0	0	V
Ia	3·0	1·7	mA
Ig2 + g4	—	900	µA
gm	3·7	2·2	mA/V
µ	50	—	
Vg3(Ia = 20µA)	—	–2·0	V
Vg1(Ia = 20µA)	—	–1·9	V
Ia(Va = 200V, Vg = –11V)	<100	—	µA

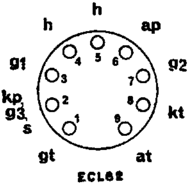
ECL80—Triode output pentode (pa max. = 3·5W)



B9A

	Triode	Pentode	
Vh	6·3		V
Ih	300		mA
Va	100	200	V
Vg2	—	200	V
Vg3	—	0	V
Vg1	–2·3	–8·0	V
Ia	4·0	17·5	mA
Ig2	—	3·3	mA
gm	1·4	3·3	mA/V
µ	17·5	—	
Ra	—	11	kΩ
Pout	—	1·4	W

ECL82—Triode output pentode (pa max. = 5·4W)

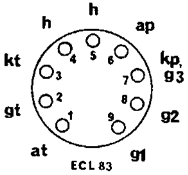


B9A

	Triode	Pentode	
Vh	6·3		V
Ih	780		mA
Va	100	250	V
Vg2	—	250	V
Ia	3·5	28	mA
Ig2	—	5·7	mA
Vg1	0	–22·5	V
gm	2·5	5·0	mA/V
Ra	—	9·0	kΩ
Pout	—	3·4	W

Triode output pentode (pa max. = 5·4W)—ECL83

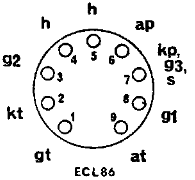
	Triode	Pentode	
Vh	6·3		V
Ih	600		mA
Va	200	200	V
Vg2	—	200	V
Ia	2·4	27	mA
Ig2	—	4·4	mA
Vg1	−1·5	−13	V
gm	2·5	5·0	mA/V
ra	34	65	kΩ
Ra	—	7·5	kΩ
Pout	—	2·5	W



B9A

Triode output pentode (pa max. = 9W)—ECL86

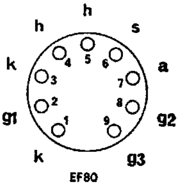
	Triode	Pentode	
Vh	6·3		V
Ih	700		mA
Va	250	250	V
Vg2	—	250	V
Ia	1·2	36	mA
Ig2	—	6·0	mA
Vg1	−1·9	−7·0	V
gm	1·6	10	mA/V
ra	62	48	kΩ
Ra	—	7·0	kΩ
Pout	—	4·0	W



B9A

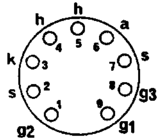
High slope r.f. pentode—EF80

Vh	6·3	V
Ih	300	mA
Va	170	V
Vg2	170	V
Vg3	0	V
Rk	160	Ω
Ia	10	mA
Ig2	2·5	mA
gm	7·4	mA/V
μg1–g2	50	



B9A

EF83—Variable-mu a.f. voltage amplifying pentode

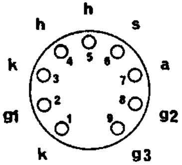


EF 83

B9A

Vh	6·3	V
Ih	200	mA
Va	250	V
Vg3	0	V
Vg2	50	V
Vg1	−1·6	V
Ia	4·0	mA
Ig2	1·15	mA
gm	1·6	mA/V
μg1–g2	10	

EF85—Variable-mu r.f. pentode

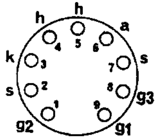


EF85

B9A

Vh	6·3	V
Ih	300	mA
Vb = Va	250	V
Rg2	60	kΩ
Vg2	100	V
Rk	160	Ω
Ia	10	mA
Ig2	2·5	mA
gm	6·0	mA/V

EF86—Low noise a.f. voltage amplifying pentode



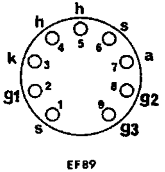
EF86

B9A

Vh	6·3	V
Ih	200	mA
Va	250	V
Vg3	0	V
Vg2	140	V
Vg1	−2·0	V
Ia	3·0	mA
Ig2	600	μA
gm	2·0	mA/V
μg1–g2	38	

Variable-mu r.f. pentode—**EF89**

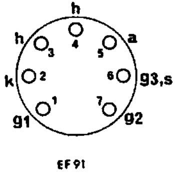
Vh	6·3	V
Ih	200	mA
Va	250	V
Vg3	0	V
Vg2	100	V
Rk	160	Ω
Ia	9·0	mA
Ig2	3·0	mA
gm	3·6	mA/V



B9A

High slope r.f. pentode—**EF91**

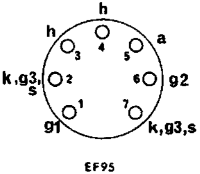
Vh	6·3	V
Ih	300	mA
Va	250	V
Vg2	250	V
Vg3	0	V
Rk	160	Ω
Ia	10	mA
Ig2	2·6	mA
gm	7·6	mA/V
μg1–g2	70	



B7G

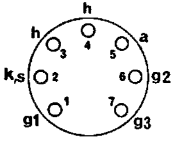
V.H.F. pentode—**EF95**

Vh	6·3		V
Ih	175		mA
Va	120	180	V
Vg2	120	120	V
Rk	200	200	Ω
Ia	7·5	7·7	mA
Ig2	2·5	2·4	mA
gm	5·0	5·1	mA/V



B7G

EF97—R.F. pentode for use in hybrid car radios

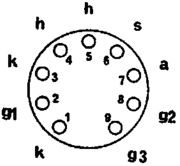


EF97

B7G

Vh		6·3		V
Ih		300		mA
Va	6·3	12·6	25	V
Vg3	0	0	0	V
Vg2	3·2	6·3	6·3	V
Rg1	10	10	10	MΩ
Ia	1·0	3·0	3·3	mA
Ig2	0·4	1·1	0·95	mA
gm	1·0	1·9	2·1	mA/V
ra	70	150	50	kΩ

EF183—Frame-grid variable-mu r.f. pentode

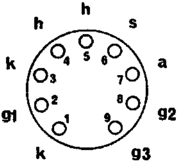


EF183

B9A

Vh	6·3	V
Ih	300	mA
Va	200	V
Vg2	90	V
Vg3	0	V
Ia	12	mA
Ig2	4·5	mA
Vg1	−2·0	V
gm	12·5	mA/V
ra	500	kΩ

EF184—Frame-grid r.f. pentode



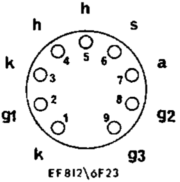
EF184

B9A

Vh	6·3		V
Ih	300		mA
Va	170	200	V
Vg3	0	0	V
Vg2	170	200	V
Vg1	−2·0	−2·5	V
Ia	10	10	mA
Ig2	4·1	4·1	mA
gm	15·6	15	mA/V
ra	330	380	kΩ
μg1-g2	60	60	

High slope r.f. pentode—**EF812/6F23**

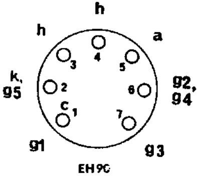
Vh	6·3	V
Ih	300	mA
Va	170	V
Vg2	170	V
Rk	150	Ω
Ia	10	mA
Ig2	2·6	mA
gm	9·2	mA/V
μg1–g2	60	



B9A

Dual control heptode—**EH90**

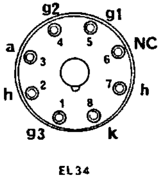
Vh	6·3	V
Ih	300	mA
Va	100	V
Vg2 + g4	30	V
Vg1	–1·0	V
Vg3	0	V
Ia	0·75	mA
Ig2 + g4	1·1	mA
gm(g1–a)	1·2	mA/V
ra	0·9	MΩ



B7G

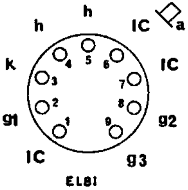
Output pentode (pa max. = 25W)—**EL34**

Vh	6·3	V
Ih	1·5	A
Va	250	V
Vg2	250	V
Vg3	0	V
Rk	106	Ω
Ia	100	mA
Ig2	15	mA
gm	11	mA/V
Ra	2·0	kΩ
Pout	11	W



Octal

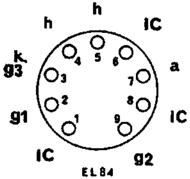
EL81—Line timebase output pentode (pa max. = 8W)



B9A

Vh	6·3	V
Ih	1·05	A
Va	250	V
Vg2	250	V
Vg3	0	V
Vg1	−38·5	V
Ia	32	mA
Ig2	2·4	mA
gm	4·6	mA/V
μg1–g2	5·1	

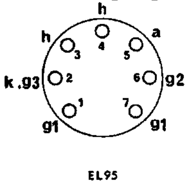
EL84—Output pentode (pa max. = 12W)



B9A

Vh	6·3	V
Ih	760	mA
Va	250	V
Vg2	250	V
Rk	135	Ω
Ia	48	mA
Ig2	5·5	mA
gm	11·3	mA/V
Ra	4·5	kΩ
Pout	5·7	W

EL95—Output pentode (pa max. = 6W)



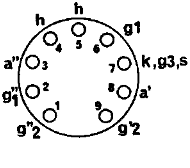
B7G

Vh	6·3	V
Ih	200	mA
Va	250	V
Vg2	250	V
Vg1	−9·0	V
Ia	24	mA
Ig2	4·5	mA
gm	5·0	mA/V
Ra	8·0	kΩ
Pout	2·3	W

Double output pentode (pa. max. = 2 × 6W)—ELL80

Vh	6·3	V
Ih	550	mA
Characteristics (each section)		
Va	250	V
Vg2	250	V
*Rk	160	Ω
Ia	24	mA
Ig2	4·5	mA
gm	6·5	mA/V
Ra	10	kΩ
Pout	3·0	W

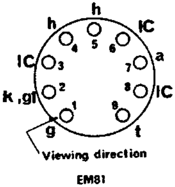
*Common to both sections



B9A

Tuning indicator—EM81

Vh	6·3		V
Ih	300		mA
Vb	250		V
Vt	250		V
Ra	500		kΩ
Rg–k	3		MΩ
Vg	−1·0	−10·5	V
B	65	5	deg
Ia	370	20	μA
It	2·0	2·3	mA

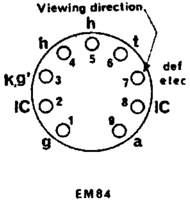


B9A

Voltage indicator—EM84

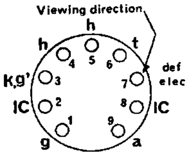
Vh	6·3		V
Ih	210		mA
Vb	250		V
Vt	250		V
Ra	470		kΩ
Rg–k	3		MΩ
Vg	0	−22	V
Ia	450	60	μA
It	1·0	1·8	mA
*L	21	0	mm

Deflection electrode connected to anode.
*Length of column.



B9A

EM87—Voltage indicator



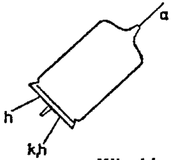
EM87

B9A

Vh		6·3		V
Ih		300		mA
Vb		250		V
Vt		250		V
Ra		100		kΩ
Rg-k		3·0		MΩ
Vg	0	−10	−15	V
Ia	2·0	0·5	0·2	mA
It	1·0	1·8	2·0	mA
*L	21	0	−1·5	mm

Deflection electrode connected to anode.
*Length of column. A negative value of L indicates overlapping.

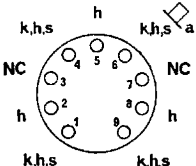
EY51—High voltage half-wave rectifier



EY51 Wired-in

Vh	6·3	V
Ih	90	mA
Pulsed input		
P.I.V. max.	17	kV
Iout	350	µA
ik(pk) max.	80	mA
C max.	5000	pF

EY86, EY87—High voltage half-wave rectifier



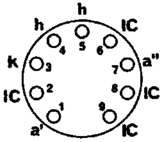
EY86
EY87
B9A

Vh	6·3	V
Ih	90	mA
Pulsed input		
P.I.V. max.	22	kV
Iout	800	µA
ia(pk) max.	40	mA
C max.	2000	pF

†Pins 1, 4, 6 and 9 may be used for fitting an anti-corona shield.
*Pins 3 and 7 may only be connected to points in the heater circuit and must not be earthed.
Note: EY87 is electrically identical to EY86 but has a chemically treated bulb to prevent flash-over under conditions of high humidity.

Full-wave rectifier—EZ80

Vh	6·3	V
Ih	600	mA
Vin (r.m.s.)	2 × 350	V
Iout max.	90	mA
C max.	50	µF
Rlim min. (per anode)	300	Ω

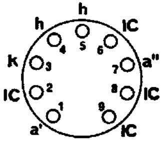


EZ 80

B9A

Full-wave rectifier—EZ81

Vh	6·3	V
Ih	1·0	A
Vin(r.m.s.)	2 × 350	V
Iout max.	160	mA
C max.	50	µF
Rlim min. (per anode)	230	Ω

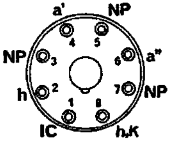


EZ81

B9A

Full-wave rectifier—GZ34

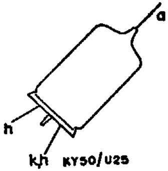
Vh	5·0	V
Ih	1·9	A
Vin(r.m.s.)	2 × 450	V
Iout max.	250	mA
C max.	60	µF
Rlim min. (per anode)	150	Ω



GZ 34

Octal

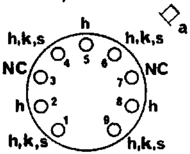
KY50/U25—E.H.T. rectifier



KY50/U25
Wired-in

Ih	200	mA
Vh	2·0	V
P.I.V. max.	19	kV
ia(pk) max.	25	mA
Ia max.	0·2	mA
Vout	16	kV

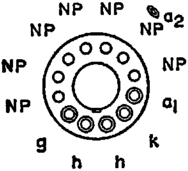
KY80/U26—E.H.T. Rectifier



KY80/U26
B9A

Ih	350	mA
Vh	2·0	V
P.I.V. max.	23·5	kV
Ia max.	0·2	mA
ia(pk) max.	60	mA

MW36-24



MW36-24
B12A

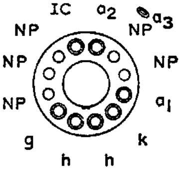
36cm (14in) Television tube. Magnetic focusing. 70° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va2	12	kV
Va1	250	V
Vg for cut-off	–33 to –72	V

MW36-44

36cm (14in) Television tube. Magnetic focusing. 70° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	12	kV
Va2	0	V
Va1	250	V
Vg for cut-off	−33 to −72	V

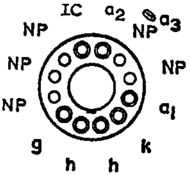


B12A

MW43-69

43cm (17in) Television tube. Magnetic focusing. 70° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	14	kV
Va2	0	V
Va1	300	V
Vg for cut-off	−40 to −86	V

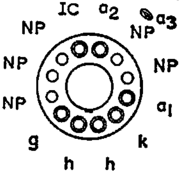


B12A

MW43-80

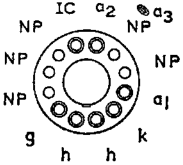
43cm (17in) Television tube. Magnetic focusing. 90° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	14	kV
Va2	0	V
Va1	300	V
Vg for cut-off	−40 to −86	V



B12A

MW53-20

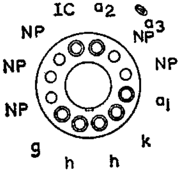


B12A

53cm (21in) Television tube. Magnetic focusing. 70° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	16	kV
Va2	0	V
Va1	300	V
Vg for cut-off	–40 to –80	V

MW53-80



B12A

53cm (21in) Television tube. Magnetic focusing. 90° Magnetic deflection. Incorporates ion trap. Ion trap magnet IT9. Metal-backed screen.
Final anode cavity connector type CT8.

Vh	6·3	V
Ih	300	mA
Va3	16	kV
Va2	0	V
Va1	300	V
Vg for cut-off	–40 to –80	V

OA70—Germanium video detector diode

OA70

Max reverse voltage		
Peak	22·5	V
Average	15	V
Max. forward current		
Peak	150	mA
*Average	50	mA

*At Tamb = 25°C and with zero reverse voltage. Averaged over any 50ms period or d.c. component.

Germanium diode—OA79
Matched pair of OA79 for f.m. detector circuits—2-OA79

Measured at Tamb ≤ 60°C		
Max. reverse voltage		
Peak	45	V
*Average	30	V
Max. forward current		
Peak	100	mA
*Average	4·0	mA
Ambient temperature range		
Max.	+60	°C
Min.	−50	°C

OA79

*Averaged over any 50ms period or d.c. component.

Germanium diode—OA81

At Tamb	25	75	°C
Max. reverse voltage			
Peak	115	100	V
Average	90	75	V
Max. forward current			
Peak	150	150	mA
*Average	50	17	mA
Surge (1s max.)	500	500	mA
Ambient temperature range			
Max.		+75	°C
Min.		−50	°C

OA81

*With zero reverse voltage. Averaged over any 50ms period or d.c. component.

Germanium diode—OA90

At Tamb = 75°C		
Max. reverse voltage		
Peak	30	V
*Average	20	V
Max. forward current		
Peak	45	mA
*Average	10	mA
Ambient temperature range		
Max.	+75	°C
Min.	−55	°C

OA90

*Averaged over any 50ms period or d.c. component.

OA91—Germanium diode

OA 91

At Tamb	25	60	°C
Max. reverse voltage			
Peak	115	100	V
Average	90	75	V
Max. forward current			
Peak	150	150	mA
*Average	*50	17	mA
Ambient temperature range			
Max.		+75	°C
Min.		−55	°C

*With zero reverse voltage. Averaged over any 50ms period or d.c. component.

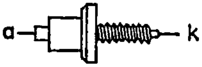
OA202—Silicon junction diode

OA 202

At Tamb	25	125	°C
Max. reverse voltage (peak or d.c.)	150	150	V
Max. forward current			
Peak	250	125	mA
D.C.	160	48	mA
*Average	80	40	mA
Ambient temperature range			
Max.		+125	°C
Min.		−55	°C

*Averaged over any 50ms period or d.c. component.

OA210—Silicon junction diode



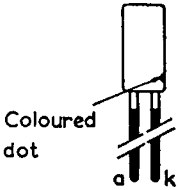
OA 210

At Tamb = 70°C		
Max. P.I.V.	400	V
Max. forward current		
Peak (at P.I.V. max.)	5·0	A
*Average	500	mA
Max. ambient temperature	70	°C

*Averaged over any 50ms period or d.c. component.

Silicon zener diode—**OAZ210**

Max. forward current		
Peak	250	mA
†Average	100	mA
Max. zener current		
Peak	250	mA
*Average	40	mA
Surge (max. duration 100 µs)	10	A
*Zener voltage at zener current of		
1mA	6·2	V
5mA	6·3	V
20mA	6·4	V
*Ptot max. (without cooling clip)	310	mW



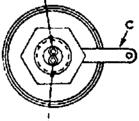
†Averaged over any 20ms period or d.c. component

*At Tamb = 25°C.

P-N-P power junction transistor—**OC16W**

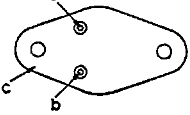
V_{CB} max.	–16	V
V_{CE} max.	–16	V
*$I_{C(AV)}$	1·5	A
I_{CBO}(V_{CB} = –14V)	20	µA
Ptot max. (Tcase = 75°C)	10	W
θj-case	1·0	°C/W

*Averaged over any 20ms period.

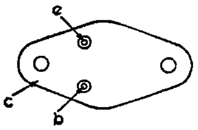


P-N-P power junction transistor—**OC19**

Measured at Tj = 25°C		
V_{CE}	–7·0	V
I_C	300	mA
f	1·0	kc/s
h_{FEL}	45	
I_{CBO} (V_{CB} = –14V)	<100	µA
Ptot max. (Tcase = 45°C)	24	W
θj-case	1·0	°C/W



OC26—P-N-P power junction transistor

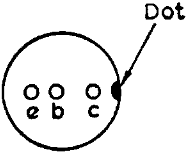


OC26

Measured at Tj = 25°C

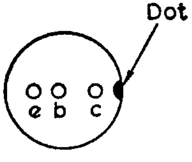
V_{CB} max.	−32	V
I_C max.	3·5	A
h_{FEL}	20 to 60	
I_{CBO}(V_{CB} = −14V)	<100	mA
Ptot max. (Tcase ⩽75°C)	12·5	W
θj-case	1·2	°C/W

OC44—R.F. P-N-P junction transistor fhfb = 15 Mc/s



Ptot max. (Tamb ⩽45°C)	43	mW
θj-amb	0·7	°C/mW
V_{CE} max. (I_E = 0)	15	V
I_{CM} max.	10	mA
f_T typ (I_E = 1mA, V_{CE} = −6V)	15	Mc/s
Coes typ (I_E = 1mA, V_{CE} = −6V)	10·5	pF
hfe typ (I_E = 1mA, V_{CE} = −6V)	100	

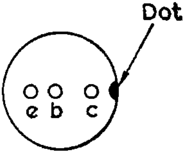
OC45—R.F. P-N-P junction transistor fhfb = 6Mc/s



Ptot max. (Tamb ⩽45°C)	43	mW
θj-amb	0·7	°C/mW
V_{CE} max. (I_E = 0)	15	V
I_{CM} max.	10	mA
f_T typ (I_E = 1·0mA, V_{CE} = −6V)	6	Mc/s
Coes typ (I_E = 1·0mA, V_{CE} = −6V)	10·5	pF
hfe typ (I_E = 1·0mA, V_{CE} = −6V)	50	

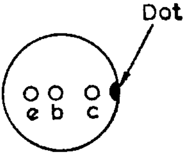
P-N-P junction transistor—**OC70**

Measured at $T_j = 25°C$		
V_{CE}	−2·0	V
I_C	0·5	mA
f	1·0	kc/s
h_{fe}	20 to 40	
I_{CBO} ($V_{CB} = -4·5V$)	5·0	µA
P_{tot} max. (at 45°C)	75	mW
$\theta_{j\text{-}amb}$	0·4	°C/mW



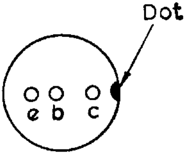
P-N-P junction transistor—**OC71**

P_{tot} max. ($T_{amb} \leqslant 45°C$)	75	mW
$\theta_{j\text{-}amb}$	0·4	°C/mW
V_{CE} max. ($I_E = 0$)	−30	V
I_{CM} max.	10	mA
h_{fe} typ ($I_C = 1mA$, $V_{CE} = -2V$).	41	



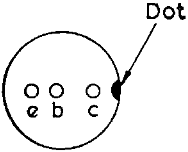
P-N-P junction transistor—**OC72**
Matched pair of OC72 for push-pull output stages—**2-OC72**

Measured at $T_{amb} = 25°C$		
V_{CE}	−5·4	V
I_C	−10	mA
h_{FEL}	45 to 120	
I_{CBO} ($V_{CB} = -10V$)	4·5	µA
P_{tot} max. (at 45°C)		
Without fin	75	mW
$\theta_{j\text{-}amb}$	0·4	°C/mW
With fin, on heat sink	100	mW
$\theta_{j\text{-}amb}$	0·3	°C/mW



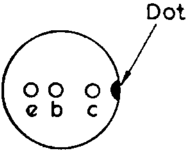
OC74—P-N-P junction transistor

2-OC74—Matched pair of OC74 for push-pull output stages



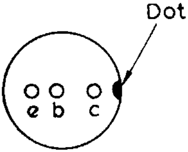
Measured at Tamb = 25°C		
V_{CE}	−6·0	**V**
I_C	50	**mA**
h_{FE}	100	
I_{CBO} (V_{CB} = −9V)	10	**µA**
Ptot max. (Tamb = 45°C)	135	**mW**
θj-amb (in free air)	≤0·22	**°C/mW**

OC75—P-N-P junction transistor



Measured at Tamb = 25°C		
V_{CE}	−2·0	**V**
I_C	3·0	**mA**
hfe	90	
I_{CBO}(V_{CB} = −4·5V)	4·5	**µA**
Ptot (Tamb = 45°C)	75	**mW**
θj-amb	<0·4	**°C/mW**

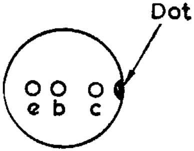
OC78—P-N-P junction transistor



Measured at Tj = 25°C		
V_{CE}	−1·0	**V**
I_C	125	**mA**
h_{FEL}	>25	
I_{CBO}(V_{CB} = −10V)	<10	**µA**
θj-amb (free air)	0·25	**°C/mW**
θj-amb (with fin, on heat sink)	0·15	**°C/mW**

P-N-P junction output transistor—OC81

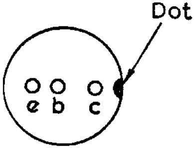
Ptot max. (Tamb ⩽45°C)	200	mW
θj-amb	0·2	°C/mW
V_{CE} max. (I_E = 0, R_{BE} < 1k Ω)	−20	V
I_{CM} max.	500	mA
hfe min. (I_C = 300mA)	45	



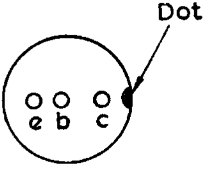
OC81

P-N-P junction driver transistor—OC81D

Ptot max. (Tamb ⩽45°C)	100	mW
θj-amb	0·4	°C/mW
V_{CE} max. (I_E = 0, R_{BE} < 2k Ω)	−20	V
I_{CM} max.	50	mA
hfe typ (I_E = 10mA, V_{CE} = −6V)	60	



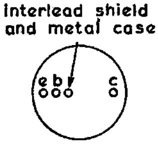
P-N-P junction transistor—OC82



OC82

Measured at Tj = 25°C		
V_{CE}	−1·0	V
I_C	250	mA
h_{FEL}	>45	
I_{CBO} (V_{CB} = −10V)	<10	µA
θj-amb (free air)	0·2	°C/mW
θj-amb (with a clip, on a heat sink)	0·1	°C/mW

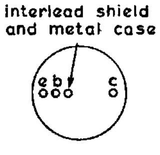
OC170—R.F. P-N-P alloy diffused junction transistor f1 = 75 Mc/s



OC170

Measured at Tamb = 25°C		
V_{CE}	−6·0	V
I_E	1·0	mA
f	1·0	kc/s
hfe	150	
I_{CBO} (V_{CB} = −6·0V)	1·2	µA
Ptot max. (Tamb = 45°C)	50	mW
θj-amb	⩽0·6	°C/mW
Power gain (f = 10 Mc/s)	25	dB

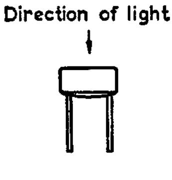
OC171—R.F. P-N-P alloy diffused junction transistor f1 = 75 Mc/s



OC171

Measured at Tamb = 25°C		
V_{CE}	−6·0	V
I_E	1·0	mA
f	1·0	kc/s
hfe	150	
I_{CBO} (V_{CB} = −6·0V)	1·2	µA
Ptot max. (Tamb = 45°C)	50	mW
0j-amb	⩽0·6	°C/mW
Power gain (f = 100 Mc/s)	14	dB

ORP12—Cadmium sulphide photoconductive cell

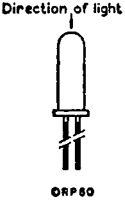


ORP12

Cell resistance		
Light resistance at 1000 lux (93 lm/ft²) and lamp colour temperature of 2700°K	75 to 300	Ω
Dark resistance	⩾10	MΩ
V cell (d.c. or pk.) max.	110	V
p cell max. at Tamb		
⩽40°C	200	mW
= 50°C	100	mW
Tamb		
Maximum	+60	°C
Minimum	−10	°C

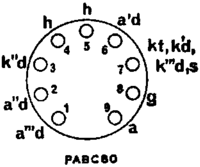
Cadmium sulphide photoconductive cell—ORP60

Cell current at 30V d.c., 54 lux (5·0 lm/ft²) and lamp colour temperature 2700°K		
Minimum	200	μA
Average	500	μA
Maximum	800	μA
Max. ultimate dark current at 300V d.c.	1·5	μA
V cell (d.c. or pk) max.	350	V
p cell max. at Tamb.		
⩽25°C	70	mW
= 70°C	20	mW
I cell max.	7·5	mA
Tamb		
Maximum	+70	°C
Minimum	−40	°C



Triple diode triode (one diode having a separate cathode)—PABC80

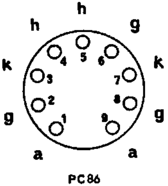
Ih	300		mA
Vh	9·5		V
Va	170	200	V
Vg	−1·85	−2·3	V
Ia	1·0	1·0	mA
gm	1·45	1·4	mA/V
ra	48	50	kΩ
μ	70	70	



B9A

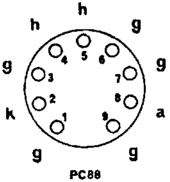
U.H.F. Frame-grid mixer/oscillator triode—PC86

Ih	300	mA
Vh	3·8	V
Va	175	V
Vg	−1·5	V
Ia	12	mA
gm	14	mA/V
ra	4·85	kΩ
μ	68	



B9A

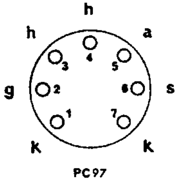
PC88—U.H.F. Frame-grid grounded grid amplifier triode



B9A

Ih	300	mA
Vh	3·8	V
Va	160	V
Vg1	−1·25	V
Ia	12·5	mA
gm	13·5	mA/V
ra	4·8	kΩ
μ	65	

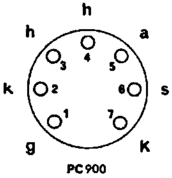
PC97—R.F. triode



B7G

Ih	300	mA
Vh	4·5	V
Va	135	V
Vg	−1·0	V
Ia	11	mA
gm	13	mA/V
μ	65	
ra	5·0	kΩ

PC900—R.F. triode

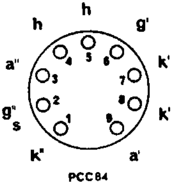


B7G

Ih	300	mA
Vh	4·0	V
Va	135	V
Vg	−1·0	V
Ia	11·5	mA
gm	14·5	mA/V
μ	72	
ra	5·0	kΩ

Double triode (separate cathodes)—PCC84

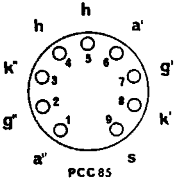
Ih	300	mA
Vh	7·0	V
Characteristics (each section)		
Va	90	V
Vg	−1·5	V
Ia	12	mA
gm	6·0	mA/V
μ	24	



B9A

Double triode (separate cathodes)—PCC85

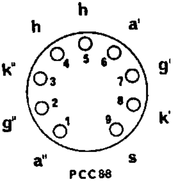
Ih	300		mA
Vh	9·0		V
Characteristics (each section)			
Va	170	200	V
Vg	−1·5	−2·1	V
Ia	10	10	mA
gm	6·2	5·8	mA/V
μ	50	48	



B9A

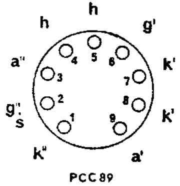
Frame-grid double triode—PCC88

Ih	300	mA
Vh	7·0	V
Characteristics (each section)		
Va	90	V
Vg	−1·3	V
Ia	15	mA
gm	12·5	mA/V
μ	33	



B9A

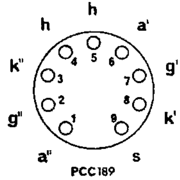
PCC89—Variable-mu frame-grid double triode



B9A

Ih	300	mA
Vh	7·5	V
Characteristics (each section)		
Va	90	V
Ia	15	mA
Vg	−1·2	V
gm	12·3	mA/V
μ	36	

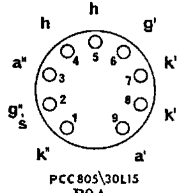
PCC189—V.H.F. Variable-mu frame-grid cascode double triode



B9A

Ih	300	mA
Vh	7·6	V
Characteristics (each section)		
Va	90	V
Vg	−1·4	V
Ia	15	mA
gm	12·5	mA/V
ra	2·5	kΩ
μ	34	
Vg (for 20:1 reduction in gm)	−5·0	V
Vg (for 100:1 reduction in gm)	−9·0	V

PCC805/30L15—R.F. cascode double triode

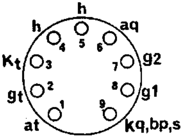


B9A

Ih	300	mA
Vh	7·0	V
Characteristics (each section)		
Va	90	V
Vg	−1·2	V
Ia	15	mA
gm	9·0	mA/V
μ	27	

Triode beam tetrode—PCE800/30FL1

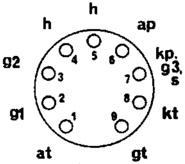
	Triode	Tetrode	
Ih	300		mA
Vh	9·4		V
Va	200	170	V
Vg2	—	170	V
Ia	10	10	mA
gm	3·4	8·0	mA/V
μ	18	—	



PCE800/30FL1
B9A

Triode pentode (separate cathodes)—PCF80

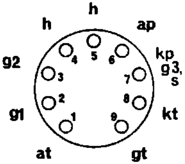
	Triode	Pentode	
Ih	300		mA
Vh	9·0		V
Va	100	170	V
Vg2	—	170	V
Vg1	−2·0	−2·0	V
Ia	14	10	mA
Ig2	—	2·8	mA
gm	5·0	6·2	mA/V
μ	20	—	



PCF80
B9A

Triode pentode (separate cathodes)—PCF82

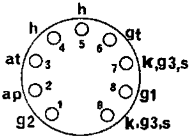
	Triode	Pentode	
Ih	300		mA
Vh	9·5		V
Va	150	250	V
Vg2	—	110	V
Vg1	−1·0	−0·9	V
Ia	18	10	mA
Ig2	—	3·5	mA
gm	8·5	5·2	mA/V
μ	40	—	



PCF82

B9A

PCF84—Triode pentode

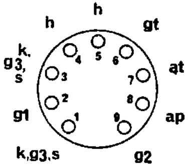


PCF84

B9A

	Triode	Pentode	
Ih	300		mA
Vh	9·0		V
Va	100	170	V
Vg2	—	170	V
Vg1	−2·0	−2·0	V
Ia	14	12	mA
Ig2	—	3·0	mA
gm	5·0	7·5	mA/V
ra	4·0	400	kΩ

PCF86—Triode frame-grid pentode

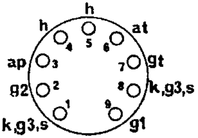


PCF86

B9A

	Triode	Pentode	
Ih	300		mA
Vh	8·0		V
Va	100	170	V
Vg2	—	150	V
Vg1	−3	−1·2	V
Ia	14	10	mA
Ig2	—	3·3	mA
gm	5·7	12	mA/V
ra	3·0	>350	kΩ

PCF800/30C15—V.H.F. Triode pentode



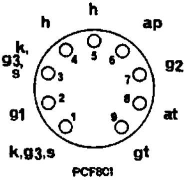
PCF800/30C15

B9A

	Triode	Pentode	
Ih	300		mA
Vh	9·0		V
Va	100	170	V
Vg2	—	170	V
Ia	15	10	mA
gm	6·0	9·0	mA/V
μ	20	—	

Triode frame-grid variable-mu pentode—PCF801

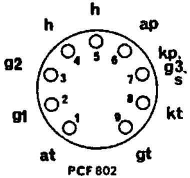
	Triode	Pentode	
Ih	300		mA
Vh	8·5		V
Va	100	170	V
Vg2	—	120	V
Vg1	–3·0	–1·4	V
Ia	15	10	mA
Ig2	—	3·0	mA
gm	9·0	11	mA/V
μ	20	—	
ra	2·2	⩾350	kΩ



B9A

Triode pentode—PCF802

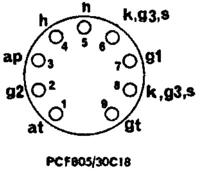
	Triode	Pentode	
Ih	300		mA
Vh	9·0		V
Va	200	100	V
Vg2	—	100	V
Vg1	–2·0	–1·0	V
Ia	3·5	6·0	mA
Ig2	—	1·7	mA
gm	3·5	5·5	mA/V
μ	70	—	
ra	20	400	kΩ



B9A

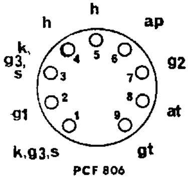
V.H.F. Triode pentode—PCF805/30C18

Ih	300		mA
Vh	7·4		V
Va	100	125	V
Vg2	—	125	V
Vg1	–3·0	–1·5	V
Ia	14	10	mA
Ig2	—	3·1	mA
gm	5·5	11	mA/V
μ	17	—	
μg1–g2	—	50	



B9A
(Shield completely surrounds pentode)

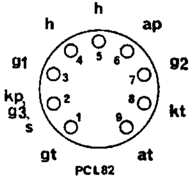
PCF806—Triode frame-grid pentode



B9A

Ih	300		mA
Vh	8·0		V
	Triode	Pentode	
Va	100	170	V
Vg2	—	150	V
Vg1	–3·0	–1·2	V
Ia	14	10	mA
Ig2	—	3·3	mA
gm	5·5	12	mA/V
μ	17	—	

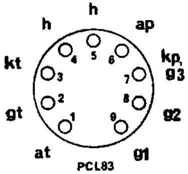
PCL82—Triode output pentode (pa max. = 7W)



B9A

Ih	300		mA
Vh	16		V
	Triode	Pentode	
Va	100	170	V
Vg2	—	170	V
Vg1	0	–11·5	V
Ia	3·5	41	mA
Ig2	—	9·0	mA
gm	2·2	7·5	mA/V
μ	70	—	
Ra	—	3·9	kΩ
Pout	—	3·3	W

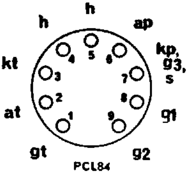
PCL83—Triode output pentode (pa max. = 5·4W)



Ih	300		mA
Vh	12·6		V
	Triode	Pentode	
Va	250	170	V
Vg2	—	170	V
Vg1	–8·5	–9·5	V
Ia	10·5	30	mA
Ig2	—	5·0	mA
gm	2·2	5·5	mA/V
μ	17	—	
Ra	—	5·5	kΩ
Pout	—	2·2	W

Triode output pentode (pa max. = 4W)—PCL84

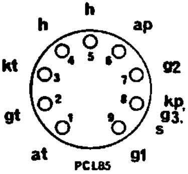
	Triode	Pentode	
Ih	300		mA
Vh	15		V
Va	200	200	V
Vg2	—	200	V
Vg1	−1·7	−2·9	V
Ia	3·0	18	mA
Ig2	—	3·0	mA
gm	4·0	10·4	mA/V
ra	16·2	130	kΩ
μg1–g2	—	36	



B9A

Triode output pentode (pa max. = 7W)—PCL85

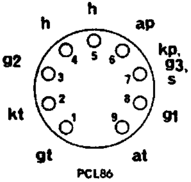
	Triode	Pentode	
Ih	300		mA
Vh	18		V
Va	100	170	V
Vg2	—	170	V
Vg1	0	−15	V
Ia	10	41	mA
Ig2	—	2·7	mA
gm	5·5	7·25	mA/V
ra	9	25	kΩ
μg1–g2	—	7·0	



B9A

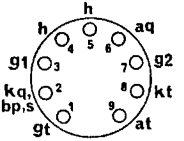
Triode output pentode (pa max. (pentode) = 9W)—PCL86

	Triode	Pentode	
Ih	300		mA
Vh	13·3		V
Va	230	230	V
Vg2	—	230	V
Vg1	−1·7	−5·7	V
Ia	1·2	39	mA
Ig2	—	6·5	mA
gm	1·6	10·5	mA/V
ra	—	45	kΩ
μg1-g2	—	21	



B9A

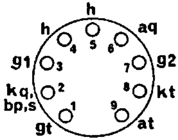
PCL88/30PL14—Triode output beam tetrode



PCL88/30PL14
B9A

	Triode	Tetrode	
Ih	300		mA
Vh	16		V
Va	100	170	V
Vg2	—	170	V
Ia	10	50	mA
gm	4·3	7·3	mA/V
μ	18	—	

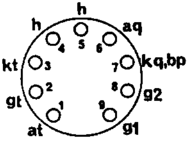
PCL800/30PL13—Triode output beam tetrode



PCL800/30PL13
B9A

	Triode	Tetrode	
Ih	300		mA
Vh	16		V
Va	100	170	V
Vg2	—	170	V
Ia	10	45	mA
Ig2	—	8·7	mA
gm	4·3	7·5	mA/V
μ	18	—	

PCL801/30PL1—Triode beam tetrode (AF or field output)

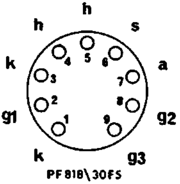


PCL801/30PL1
B9A

	Triode	Tetrode	
Ih	300		mA
Vh	13		V
Va	200	170	V
Vg2	—	180	V
Ia	10	32	mA
gm	3·4	7·2	mA/V
μ	18	—	

H.F. screened pentode (pa max. = 3W)—PF818/30F5

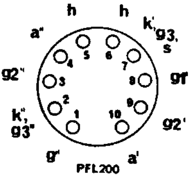
Ih	300	mA
Vh	7·3	V
Va	170	V
Vg3	0	V
Vg2	170	V
Vg1	−1·9	V
Ia	10	mA
Ig2	2·6	mA
Rk	150	Ω
gm	8·8	mA/V



B9A

Double pentode (pa max. (output section) = 5W)—PFL200

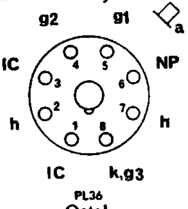
Ih	300		mA
Vh	16·5		V
	Amplifier section	Output section	
Va	150	170	V
Vg2	150	170	V
Vg1	−2·3	−2·6	V
Ia	10	30	mA
Ig2	3·0	6·5	mA
gm	8·5	21	mA/V
μg1–g2	35	32	
ra	160	40	kΩ



B10B

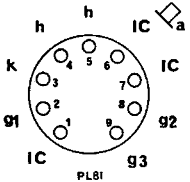
Line timebase output pentode (pa max. = 12W)—PL36

Ih	300	mA
Vh	25	V
Va	100	V
Vg2	100	V
Vg1	−8·2	V
Ia	100	mA
Ig2	7·0	mA
gm	14	mA/V
μg1–g2	5·6	



Octal

PL81—Line timbebase output pentode (pa max. = 8W)

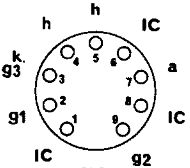


PL81

B9A

Ih	300	mA
Vh	21·5	V
Va	170	V
Vg2	170	V
Vg3	0	V
Vg1	–24	V
Ia	45	mA
Ig2	3·0	mA
gm	6·5	mA/V
µg1–g2	5·5	

PL82—Output pentode (pa max. = 9W)

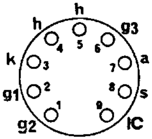


PL 82

B9A

Ih	300		mA
Vh	16·5		V
Va	170	200	V
Vg2	170	200	V
Rk	165	270	Ω
Ia	53	45	mA
Ig2	10	8·5	mA
gm	9·0	7·6	mA/V
Ra	3·0	4·0	kΩ
Pout	4·0	4·2	W

PL83—Video output pentode (pa max. = 9W)



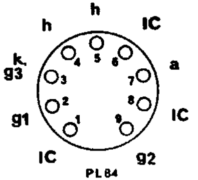
PL83

B9A

Ih	300		mA
Vh	15		V
Va	170	200	V
Vg2	170	200	V
Vg3	0	0	V
Vg1	–2·3	–3·5	V
Ia	36	36	mA
Ig2	5·0	5·0	mA
gm	10	10	mA/V
µg1–g2	24	24	

Output pentode (pa max. = 12W)—PL84

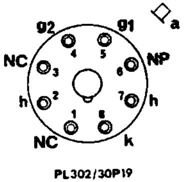
Ih	300		mA
Vh	15		V
Va	170	200	V
Vg2	170	200	V
Vg1	−12·5	−17·3	V
Ia	70	60	mA
Ig2	3·5	3·0	mA
gm	11	8·8	mA/V
ra	26	28	kΩ
μg1–g2	8·0	8·0	



B9A

Line output beam tetrode (pa max. = 10W)—PL302/30P19

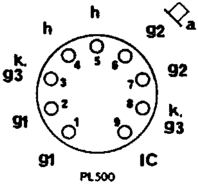
Ih	300	mA
Vh	25	V
Va max.	400	V
Va(pk) max.	7·0	kV
Vg2 max.	250	V
Vg2(pk) max.	2·0	kV
Ik max.	200	mA
Rg1-k max.	1·0	MΩ
Vh–k(r.m.s.) max.	200	V



Octal

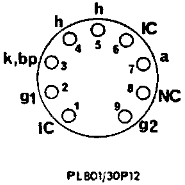
Line output pentode, suitable for 625 line systems—PL500 (pa max. = 12W)

Ih	300	mA
Vh	27	V
Dynamic characteristics		
Va	75	V
Vg2	200	V
Vg1	−10	V
Ia	440	mA
Ig2	30	mA



B9D

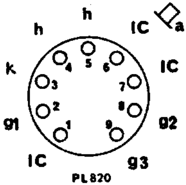
PL801/30P12—Beam tetrode (A.F. or field output, pa max. = 6W)



B9A

Ih	300	mA
Vh	12·6	V
Va	170	V
Vg2	180	V
Vg1	−10·3	V
Ia	31	mA
Ig2	7·3	mA
Ra	5·0	kΩ
Pout	2·25	W

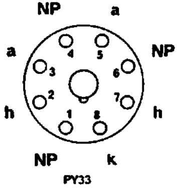
PL820—Line timebase output pentode (pa max. = 8W)



B9A

Ih	300		mA
Vh	21·5		V
Va	170	200	V
Vg2	170	200	V
Vg3	0	0	V
Vg1	−22	−28	V
Ia	45	40	mA
Ig2	3·0	2·8	mA
gm	6·2	6·0	mA/V
μg1-g2	5·5	5·5	

PY33—Half-wave rectifier

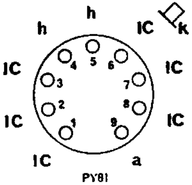


Octal

Ih	300	mA
Vh	29	V
P.I.V. max.	700	V
Vin(r.m.s.)	200	V
Iout max.	325	mA
C max.	200	μF
Rlim min.	15	Ω

Booster diode—**PY81**

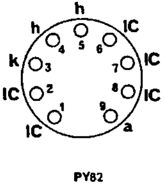
Ih	300	mA
Vh	17	V
P.I.V. max.	4·75	kV
Ia(av) max.	150	mA
C max.	4·0	µF
vh–k(pk) max. (cathode positive)	4·75	kV



B9A

Half-wave rectifier—**PY82**

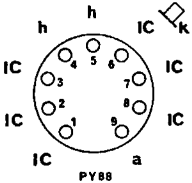
Ih	300	mA
Vh	19	V
P.I.V.	700	V
Vin(r.m.s.) max.	250	V
Iout max.	180	mA
C max.	60	µF
Rlim min.	45	Ω



B9A

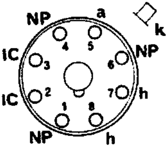
Booster diode—**PY88**

Ih	300	mA
Vh	30	V
P.I.V. max.	6·6	kV
Ia(av) max.	220	mA
vh–k(pk) max. (cathode positive)	6·6	kV



B9A

PY301/U191—Booster diode

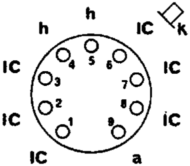


PY301/U191

Octal

Ih	300	mA
Vh	19	V
P.I.V. max.	4·5	kV
Ia(av) max.	150	mA
ia(pk) max.	450	mA
vh–k(pk) max.	4·5	kV

PY800—Booster diode

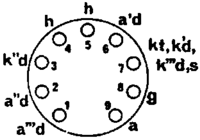


PY800

B9A

Ih	300	mA
Vh	19	V
P.I.V. max.	5·25	kV
Ia(av) max.	150	mA
vh–k(pk) max. (cathode positive)	5·75	kV

UABC80—Triple diode triode (one diode having a separate cathode)



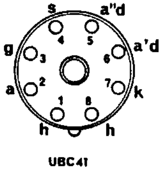
UABC80

B9A

Ih	100		mA
Vh	28		V
Va	170	200	V
Vg	−1·8	−2·3	V
Ia	1·0	1·0	mA
gm	1·45	1·4	mA/V
µ	70	70	

Double diode triode—UBC41

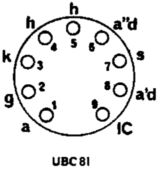
Ih	100		mA
Vh	14		V
Va	100	170	V
Vg	−1·0	−1·6	V
Ia	0·8	1·5	mA
gm	1·4	1·65	mA/V
μ	70	70	



B8A

Double diode triode—UBC81

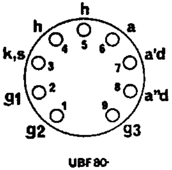
Ih	100		mA
Vh	14		V
Va	100	170	V
Vg	−1·0	−1·6	V
Ia	0·8	1·5	mA
gm	1·4	1·65	mA/V
μ	70	70	
ra	50	42	kΩ



B9A

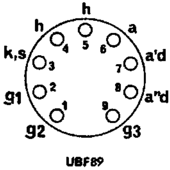
Double diode pentode—UBF80

Ih	100			mA
Vh	17			V
Va = Vb	100	170	200	V
Rg2	47	47	68	kΩ
Vg2	50	85	85	V
Vg3	0	0	0	V
Rk	300	300	300	Ω
Ia	2·8	5·0	5·0	mA
Ig2	1·0	1·75	1·75	mA
gm	1·9	2·2	2·2	mA/V
μg1–g2	18	18	18	



B9A

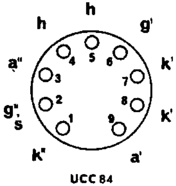
UBF89—Double diode r.f. pentode



B9A

Ih	100		mA
Vh	19		V
Va	100	200	V
Vg3	0	0	V
Vg2	100	100	V
Vg1	−2·0	−1·5	V
Ia	8·5	11	mA
Ig2	2·8	3·3	mA
gm	3·5	4·5	mA/V
ra	300	600	kΩ
μg1–g2	—	20	

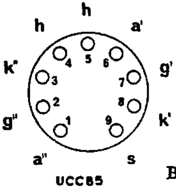
UCC84—Double triode (separate cathodes)



B9A

Ih	100	mA
Vh	21	V
Characteristics (each section)		
Va	90	V
Vg	−1·5	V
Ia	12	mA
gm	6·0	mA/V
μ	24	

UCC85—Double triode (separate cathodes)

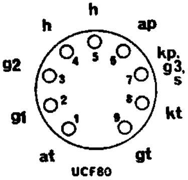


B9A

Ih	100		mA
Vh	26		V
Characteristics (each section)			
Va	170	200	V
Vg	−1·5	−2·1	V
Ia	10	10	mA
gm	6·2	5·8	mA/V
μ	50	48	

Triode pentode (separate cathodes)—UCF80

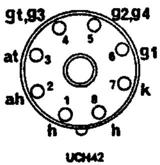
Ih	100		mA
Vh	27		V
	Triode	Pentode	
Va	100	170	V
Vg2	—	170	V
Vg1	−2·0	−2·0	V
Ia	14	10	mA
Ig2	—	2·8	mA
gm	5·0	6·2	mA/V
µ	20	—	



B9A

Triode hexode frequency changer—UCH42

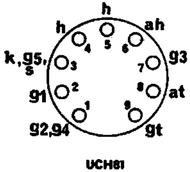
Ih		100		mA
Vh		14		V
Vah = Vb	100	170	200	V
Rk	180	180	180	Ω
Rg3 + gt	47	47	47	kΩ
Ig3 + gt	100	200	200	µA
Vg2 + g4	43	70	85	V
Iah	1·2	2·1	3·0	mA
Ig2 + g4	1·5	2·6	3·0	mA
gc	530	670	750	µA/V
Vat	70	113	85	V
Iat	3·1	5·7	5·2	mA



B8A

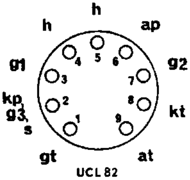
Triode heptode frequency changer—UCH81

Ih	100		mA
Vh	19		V
Vah = Vb	170	200	V
Rg2 + g4	10	10	kΩ
Rg3 + gt	47	47	kΩ
Rk	150	150	Ω
Vg2 + g4	102	119	V
Iah	3·2	3·7	mA
Ig2 + g4	6·8	8·1	mA
Ig3 + gt	200	230	µA
gc	750	775	µA/V
Vat	102	120	V
Iat	4·5	5·4	mA



B9A

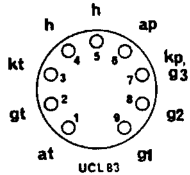
UCL82—Triode output pentode (pa max. = 7W)



B9A

	Triode	Pentode	
Ih	100		mA
Vh	50		V
Va	100	200	V
Vg2	—	200	V
Ia	3·5	35	mA
Ig2	—	7·0	mA
Vg1	0	−16	V
gm	2·5	6·4	mA/V
Ra	—	5·6	kΩ
Pout	—	3·5	W

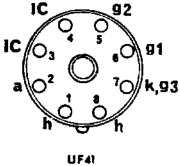
UCL83—Triode output pentode (pa max. = 5·4W)



B9A

	Triode	Pentode	
Ih	100		mA
Vh	38		V
Va	170	170	V
Vg2	—	170	V
Vg1	−1·5	−9·5	V
Ia	1·6	30	mA
Ig2	—	5·0	mA
gm	2·1	5·5	mA/V
μ	82	—	
Ra	—	5·5	kΩ
Pout	—	2·2	W

UF41—Variable-mu r.f. pentode

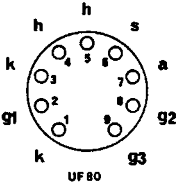


B8A

Ih		100		mA
Vh		12·6		V
Va=Vb	100	170	200	V
Rg2	39	39	39	kΩ
Rk	330	330	330	Ω
Ia	3·3	6·0	7·2	mA
Ig2	1·0	1·75	2·1	mA
gm	1·9	2·2	2·3	mA/V
μg1–g2	18	18	18	

High slope r.f. pentode—UF80

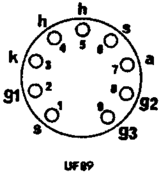
Ih	100	mA
Vh	19	V
Va	170	V
Vg2	170	V
Rk	160	Ω
Ia	10	mA
Ig2	2·5	mA
gm	7·4	mA/V
μg1–g2	50	



B9A

Variable-mu r.f. pentode—UF89

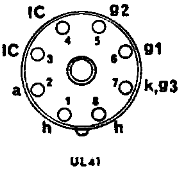
Ih	100		mA
Vh	12·6		V
Va	170	200	V
Vg3	0	0	V
Rg2	15	24	kΩ
Rk	130	130	Ω
Ia	11	11·1	mA
Ig2	3·9	3·8	mA
gm	3·8	3·85	mA/V



B9A

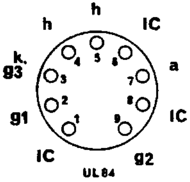
Output pentode (pa max. = 9W)—UL41

Ih		100		mA
Vh		45		V
Va	100	170	200	V
Vg2	100	170	200	V
Rk	165	165	270	Ω
Ia	29	53	45	mA
Ig2	5·5	10	8·5	mA
gm	8·0	9·5	8·2	mA/V
Ra	3·0	3·0	4·3	kΩ
Pout	1·35	4·2	4·2	W



B8A

UL84—Output pentode (pa max. = 12W)

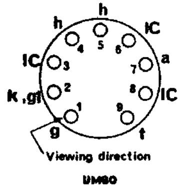


B9A

Ih		100		mA
Vh		45		V
Va	100	170	200	V
Vg2	100	170	*	V
Rk	150	170	270	Ω
Ia	43	70	60	mA
Ig2	3·0	5·0	4·1	mA
gm	9·0	10	8·8	mA/V
Ra	2·4	2·4	2·4	kΩ
Pout	1·9	5·6	5·2	W

*Vg2(b) = 200V, Rg2 = 470 Ω

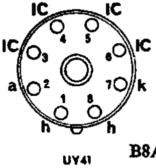
UM80—Tuning indicator



B9A

Ih	100		mA
Vh	19		V
Vb	200		V
Vt	200		V
Ra	500		kΩ
Rg-k	3·0		MΩ
Vg	−1·0	−14	V
B	4·0	50	deg
It	5·7	7·0	mA
Ia	350	10	μA

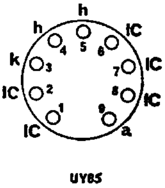
UY41—Half-wave rectifier



B8A

Ih	100	mA
Vh	31	V
Vin(r.m.s.)	250	V
Iout max.	100	mA
C max.	50	μF
Rlim min.	210	Ω

Ih	100	mA
Vh	38	V
Vin(r.m.s.)	250	V
Iout max.	110	mA
C max.	100	μF
Rlim min.	100	Ω



B9A

MINIATURE ELECTROLYTIC CAPACITORS

TOLERANCES	WORKING TEMPERATURES	LEAKAGE CURRENT
−10 to +100% for can size 1N −10 to +50% for can sizes 2N-6N	Minimum: −40°C Maximum continuous: Size 1N 60°C Other sizes 70°C	After 5 minutes operation at 20°C: Il⩽80 × 10³CV After prolonged operation at 20°C: Il⩽16 × 10³CV After continuous operation at max. temp.: Il⩽80 × 10³CV where: Il is leakage current in microamps C is capacitance in farads V is max. voltage in volts

DIMENSIONS			
Can size	BODY		Leads (mm)
	Length (mm)	Dia. (mm)	
1N	10·5	3·4	0·6 (23 s.w.g. approx.) × 34
2N	10·5	4·8	0·6 (23 s.w.g. approx.) × 34
3N	10·5	6·1	0·6 (23 s.w.g. approx.) × 34
4N	18·5	6·7	0·8 (21 s.w.g. approx.) × 34
5N	18·5	8·3	0·8 (21 s.w.g. approx.) × 34
6N	18·5	10·4	0·8 (21 s.w.g. approx.) × 34

MINIATURE ELECTROLYTIC CAPACITORS (*Cont.*)

Capacitance (µF)	Max. Voltage (V)	Type No. Insulated	Can size
10·0	2·5	C426AS/A10	1N
8·0	4·0	C426AS/B8	
6·4	6·4	C426AS/C6·4	
4·0	10·0	C426AS/D4	
2·5	16·0	C426AS/E2·5	
1·6	25·0	C426AS/F1·6	
1·0	40·0	C426AS/G1	
0·64	64·0	C426AS/HO·64	
40·0	2·5	C426AR/A40	2N
32·0	4·0	C426AR/B32	
25·0	6·4	C426AR/C25	
16·0	10·0	C426AR/D16	
10·0	16·0	C426AR/E10	
6·4	25·0	C426AR/F6·4	
4·0	40·0	C426AR/G4	
2·5	64·0	C426AR/H2·5	
80·0	2·5	C426AR/A80	3N
64·0	4·0	C426AR/B64	
50·0	6·4	C426AR/C50	
32·0	10·0	C426AR/D32	
20·0	16·0	C426AR/E20	
12·5	25·0	C426AR/F12·5	
8·0	40·0	C426AR/G8	
5·0	64·0	C426AR/H5	
160·0	2·5	C426AR/A160	4N
125·0	4·0	C426AR/B125	
100·0	6·4	C426AR/C100	
64·0	10·0	C426AR/D64	
40·0	16·0	C426AR/E40	
25·0	25·0	C426AR/F25	
16·0	40·0	C426AR/G16	
10·0	64·0	C426AR/H10	
320·0	2·5	C426AR/A320	5N
250·0	4·0	C426AR/B250	
200·0	6·4	C426AR/C200	
125·0	10·0	C426AR/D125	
80·0	16·0	C426AR/E80	
50·0	25·0	C426AR/F50	
32·0	40·0	C426AR/G32	
20·0	64·0	C426AR/H20	

MINIATURE ELECTROLYTIC CAPACITORS (*Cont.*)

Capacitance (μF)	Max. voltage (V)	Type No. Insulated	Can size
500·0	2·5	C426AR/A500	6N
400·0	4·0	C426AR/B400	
320·0	6·4	C426AR/C320	
200·0	10·0	C426AR/D200	
125·0	16·0	C426AR/E125	
80·0	25·0	C426AR/F80	
50·0	40·0	C426AR/G50	
32·0	64·0	C426AR/H32	

For details of C426AN and C426AM ranges refer to previous data book.

POLYESTER CAPACITORS

Unless otherwise stated these characteristics refer to 20°C ± 5°, 750 ± 50mm Hg and 60 ± 15% relative humidity.

CAPACITANCE TOLERANCE: ± 10%.

MAXIMUM WORKING VOLTAGE: (at temperature up to 85°C)
160V d.c. or 90V r.m.s. ....($f \leqslant 1$ kc/s) for C296AA series
400V d.c. or 200V r.m.s............($f \leqslant 500$ c/s) for C296AC series

TEST VOLTAGE: 480V d.c. for 125V range for 1 second.
1,200V d.c. for 400V range for 1 second.

INSULATION RESISTANCE:
(*a*) at 20°C Capacitance values $\leqslant 0{\cdot}33$ µF I.R.> 50kMΩ
Capacitance values $> 0{\cdot}33$ µF RC product 16·5k MΩ, µF
(*b*) at 85°C Capacitance values $\leqslant 0{\cdot}33$ µF I.R. > 2·0kMΩ
Capacitance values $> 0{\cdot}33$ µF RC product 600 MΩ, µF

POWER FACTOR: $\leqslant 60 \times 10^{-4}$ at 1 kc/s.

TEMPERATURE RANGE: –40 to +100°C. For temperatures between 80 and 100°C max., the working voltage should be derated by 0·9%/°C.

160V Range				
Capacitance (µF)	Type Number	Dimensions in mm		
		Max. diameter	Max. body length	Connecting wire dia.
0·01	C296AA/A10K	7	21	0·7 (22 s.w.g. approx.)
0·015	C296AA/A15K	7		
0·022	C296AA/A22K	7		
0·033	C296AA/A33K	7·5		
0·047	C296AA/A47K	8		
0·068	C296AA/A68K	9		
0·1	C296AA/A100K	10·5		0·8 (21 s.w.g. approx.)
0·15	C296AA/A150K	12		

POLYESTER CAPACITORS (*Cont.*)

160V Range				
Capacitance (µF)	Type Number	Dimensions in mm		
		Max. diameter	Max. body length	Connecting wire dia.
0·22	C296AA/A220K	10	35	0·8 (21 s.w.g. approx.)
0·33	C296AA/A330K	12		
0·47	C296AA/A470K	14		
0·68	C296AA/A680K	16		
1·0	C296AA/A1M	18·5		

400V Range				
Capacitance (µF)	Type Number	Dimensions in mm		
		Max. diameter	Max. body length	Connecting wire dia.
0·001	C296AC/A1K	8	21	0·7 (22 s.w.g. approx.)
0·0015	C296AC/A1K5	9		
0·0022	C296AC/A2K2	8		
0·0033	C296AC/A3K3	8		
0·0047	C296AC/A4K7	8·5		
0·0068	C296AC/A6K8	7·5		
0·01	C296AC/A10K	7·5		
0·015	C296AC/A15K	7·5		
0·022	C296AC/A22K	8·5		
0·033	C296AC/A33K	10		0·8 (21 s.w.g. approx.)
0·047	C296AC/A47K	11·5		

POLYESTER CAPACITORS (*Cont.*)

400V Range					
Capacitance (μF)	Type Number	Dimensions in mm			
		Max. diameter	Max. body length	Connecting wire dia.	
0·068	C296AC/A68K	9·5	35	0·8 (21 s.w.g. approx.)	
0·1	C296AC/A100K	11			
0·15	C296AC/A150K	12·5			
0·22	C296AC/A220K	14·5			
0·33	C296AC/A330K	17			
0·47	C296AC/A470K	19·5			

MINIATURE FOIL CAPACITORS

CAPACITANCE TOLERANCE: ±20%
WORKING VOLTAGE: 40V d.c.
TEST VOLTAGE (for 1s max.): 90V d.c.
INSULATION RESISTANCE at 20°C: 10kMΩ
POWER FACTOR: ⩽0·015.
TEMPERATURE RANGE: −40 to +85°C.

Capacitance (μF)	Type No.	Colour Code				Max. body dimensions (mm)		
		1st	2nd	3rd	4th	l.	h.	b.
0·01	C280AA/P10K	Brown	Black	Orange	Black	12	10	4·0
0·022	C280AA/P22K	Red	Red	Orange	Black	12	10	4·0
0·047	C280AA/P47K	Yellow	Violet	Orange	Black	12	10	4·0
0·1	C280AA/P100K	Brown	Black	Yellow	Black	12	12	6·0

VOLTAGE DEPENDENT RESISTORS

V.D.R. have a resistance value which varies with the applied voltage and have been designed for applications in t.v. receivers and other electronic and electrical equipment

ROD-TYPE

MAXIMUM DISSIPATION (Tamb=40°C): 800 mW
Typical Application:
E298ED/A258: Damping the primary of frame output transformers to prevent ringing and flashover.
E298ZZ/06: Rectification of asymmetric pulses (e.g. to provide a negative voltage for a.g.c. purposes.)
The connecting wires are of tinned copper and have a diameter of 0·8mm (21 s.w.g. approx.) and an approximate length of 28mm.

Type No.	Reference Voltage for a current of		Dimensions (mm)		Colour Dot
	(V)	(mA)	Max. dia.	Max. body length	
E298ED/A258	470	10	4·5	20	green
E298ZZ/06	950	2·0	4·5	20	black blue

DISC-TYPE

MAXIMUM DISSIPATION (Tamb=40°C): 500 mW (E299CD/A344: 800 mW)
The connecting wires are of tinned copper and have a diameter of 0·8mm (21 s.w.g. approx.) and a length of 50mm. E299CD/A344 type has solder tags.

Type No.	Reference Voltage for current of 1mA (V)	Dimensions (mm)		Colour Coding
		Max. dia.	Max. thickness	
E299DC/P338	68	10	5·5	orange, orange, grey
E299DC/P342	100	10	6·0	orange, yellow, red
E299CD/A344	120	15	6·0	orange, yellow, yellow
E299DC/P346	150	10	7·0	orange, yellow, blue

VARITE THERMISTORS

Thermally sensitive semiconductors characterised by a large negative temperature co-efficient of resistance

Type No.	Typical Application	Max. Power rating (W)	Operating Current at max. dissipation (mA)	Resistance (Ω)			*B factor (°K)
				25°C	55°C	100°C	
VA1005	Surge limiter for use with 300 mA series heater chain	4·0	300	3920	800	200	4000
VA1010	Surge limiter for use with 100 mA series heater chain	3·0	150	9650	4000	1300	3000
VA1015	Surge limiter for use with 300 mA series heater chain	6·0	450	930	400	100	3600
VA1026	Surge limiter for use with 300 mA series heater chain	2·5	300	400	130	37	3700
VA1027	Temperature compensation in c.r.t. focusing coils	2·0	300	1070	300	90	3800

*The B factor is used to determine the resistance at any temperature from the formula:

$$\log_{10}R_1 = \log_{10}R_2 + \frac{B}{2.303}\left\{\frac{T_2 - T_1}{T_2 T_1}\right\}$$

where R_1 is the resistance at a temperature of T_1(°K) and R_2 is the resistance at a temperature of T_2(°K).

For information on replacements see the Equivalents List.