FORWARD WAVE AMPLIFIER

LB6-12

Application: Power amplifier
Frequency: 6Gc/s band
Construction: Unpackaged

PRELIMINARY DATA

CHARACTERISTICS

		Min.	Max.	
Frequency band		5.0 to 7.8		Gc/s
Gain				
Low power level				
f = 5.0 to 7.8Gc/s		30	—	dB
f = 5.9 to 7.2Gc/s		35	—	dB
P_{out} = 5W				
f = 5.0 to 7.8Gc/s		26	—	dB
f = 5.9 to 7.2Gc/s		31	—	dB
Noise factor		—	30	dB
Saturation power output		8.0	—	W
Attenuation (at I_k = 0mA)		65	—	dB
Cold input match in recommended mount				
Over any 30Mc/s in band with matching device adjusted	v.s.w.r.	—	1.1	
Over 5.9 to 7.2Gc/s without matching device	v.s.w.r.	—	2.0	
Cold output match in recommended mount				
Over any 30Mc/s in band with matching device adjusted	v.s.w.r.	—	1.1	
Over 5.9 to 7.2Gc/s without matching device	v.s.w.r.	—	2.0	

CATHODE

Indirectly heated		
V_h	6.3	V
I_h	1.4	A

TYPICAL OPERATION

As a power amplifier with the collector earthed and using a mount (type P6L-3) of approved design.

f		6.5	Gc/s
$V_{collector}$		1.5	kV
V_{helix}		2.4	kV
V_{g2}		2.6	kV
V_{g1}		0	V
$I_{collector}$		40	mA
I_{helix}		1.2	mA
Gain		37	dB
Power output		5.0	W
Cold input match with matching device adjusted			
At 6.5Gc/s	v.s.w.r.	1.02	
At ±15Mc/s about 6.5Gc/s	v.s.w.r.	1.08	
Cold output match with matching device adjusted			
At 6.5Gc/s	v.s.w.r.	1.02	
At±15Mc/s about 6.5Gc/s	v.s.w.r.	1.08	

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LIMITING VALUES (absolute ratings)

$V_{collector}$ max.	1.75	kV
$V_{collector}$ min.	1.2	kV
$I_{collector}$ max.	45	mA
$P_{collector}$ max.	70	W
V_{helix} max.	2.65	kV
I_{helix} max.		
(max. signal)	2.5	mA
(no signal)	2.0	mA
V_{g2} max.	3.0	kV
I_{g2} max.	1.0	mA
$-V_{g1}$ max.	200	V
$P_{in\ (signal)}$ max.	1.0	W
V_{h-k} max.	50	V
T_{seals} max.	150	°C

MOUNTING POSITION

Any

COOLING

Horizontally mounted	Natural
Vertically mounted	Natural-assisted by convection duct

ACCESSORY

Mount P6L-3

DIMENSIONS

	Inches	*Millimetres*	
A	4.409±0.917	112±5	
B	1.299	33	max.
C	1.102	28	max.
D	12.008	305	max.
E	1.693	43	max.
G	$0.295^{+0}_{-0.001}$	$7.5^{+0}_{-0.02}$	
H	0.128	3.25	max.
J	0.541	13.75	max.
K	1.240	31.5	max.
M	1.319	33.5	max.
P	3.197±0.008	81.2±0.2	
S	6.319±0.008	160.5±0.2	
T	1.988	50.5	max.
AA	0.039	1.0	
BB	0.217	5.5	
CC	0.158	4.0	
DD	0.591	15	
EE	0.945	24	
GG	$0.197^{+0}_{-0.001}$	$5.0^{+0}_{-0.02}$	
HH	0.236	6.0	

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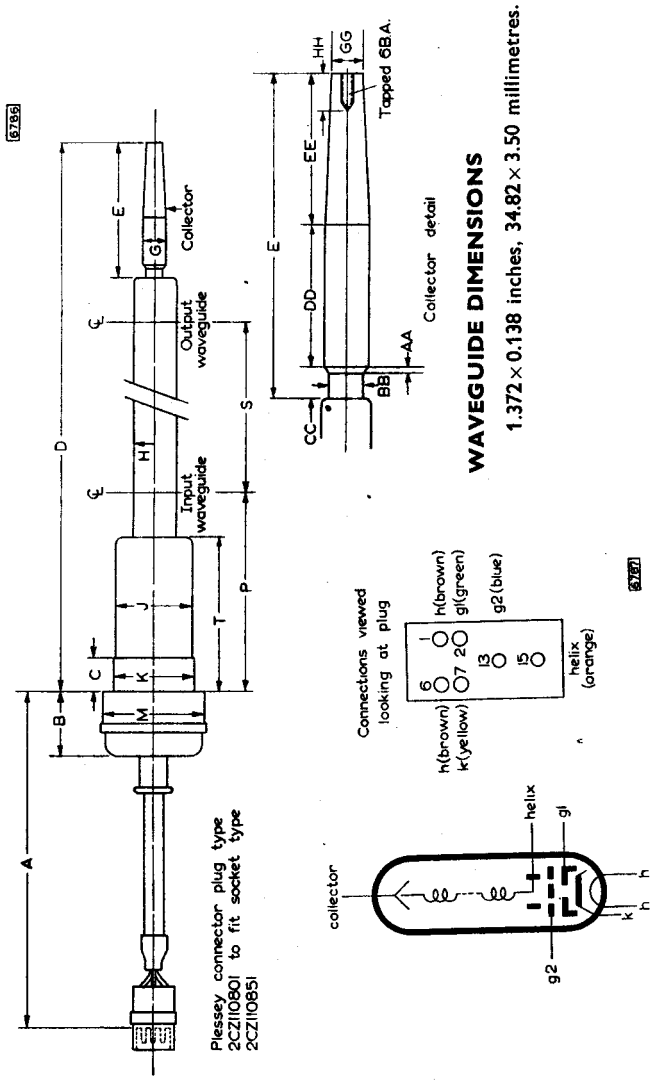

WAVEGUIDE DIMENSIONS

1.372 × 0.138 inches, 34.82 × 3.50 millimetres.

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