

FORWARD WAVE AMPLIFIER

LAI6-2C

Application: Low power amplifier, broadband.

Frequency: J-band.

Construction: Packaged, periodic permanent magnet focussed.

PRELIMINARY DATA

This data should be read in conjunction with GENERAL OPERATIONAL RECOMMENDATIONS—MICROWAVE DEVICES: INTRODUCTION and FORWARD WAVE AMPLIFIERS which precede this section of the handbook

CHARACTERISTICS

	Min.	Max.	
Frequency band	11.5	18	Gc/s
Gain (low power level)—over frequency band	20	—	dB
Noise factor	—	28	dB
Saturation power output	1.0	—	mW
Attenuation (at $I_k = 0\text{mA}$)	40	—	dB

CATHODE

Indirectly heated

V_h	8.5	V
I_h	400	mA

OPERATING CONDITIONS

f	15	Gc/s
$V_{\text{collector}}$	1.7	kV
V_{helix}	1.6	kV
V_{g3}	150	V
V_{g2}	350	V
V_{g1}	-120	V
$I_{\text{collector}}$	450	μA
Gain	32	dB
Noise factor	23	dB
Power output	10	μW

ABSOLUTE MAXIMUM RATINGS

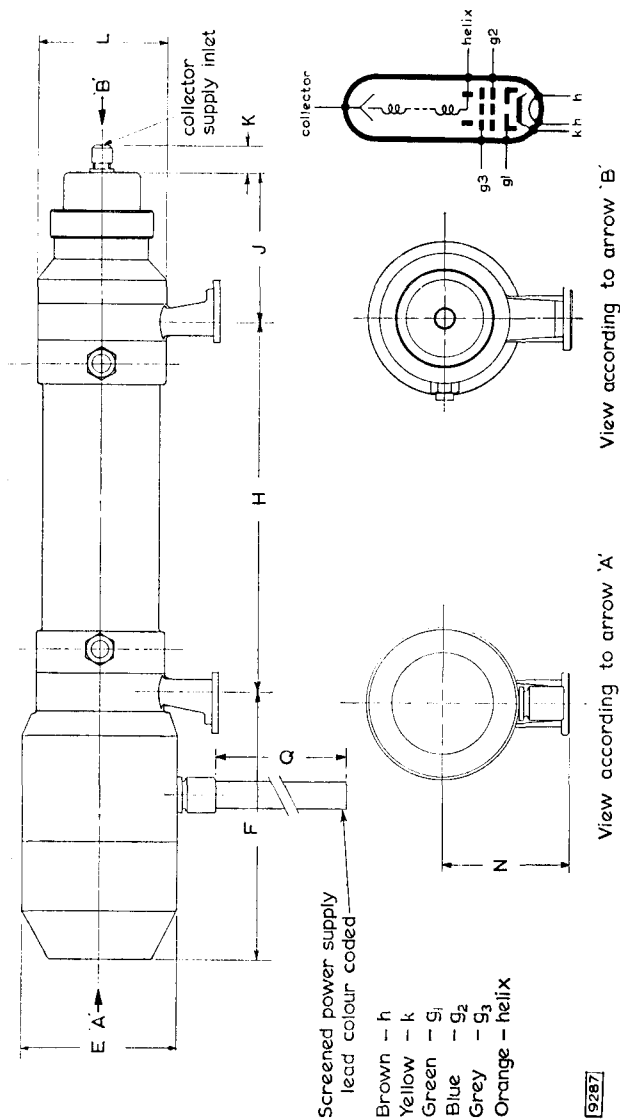
$V_{\text{collector max.}}$	1.85	kV
$I_{\text{collector max.}}$	500	μA
$P_{\text{collector max.}}$	800	mW
$V_{\text{helix max.}}$	1.75	kV
$I_{\text{helix max.}}$	60	μA
$V_{g3 \text{ max.}}$	200	V
$I_{g3 \text{ max.}}$	20	μA
$V_{g2 \text{ max.}}$	450	V
$I_{g2 \text{ max.}}$	20	μA
$-V_{g1 \text{ max.}}$	150	V
$I_{g1 \text{ max.}}$	10	μA
$P_{\text{in (signal) max.}}$	300	mW
$V_{h-k \text{ max.}}$	50	V

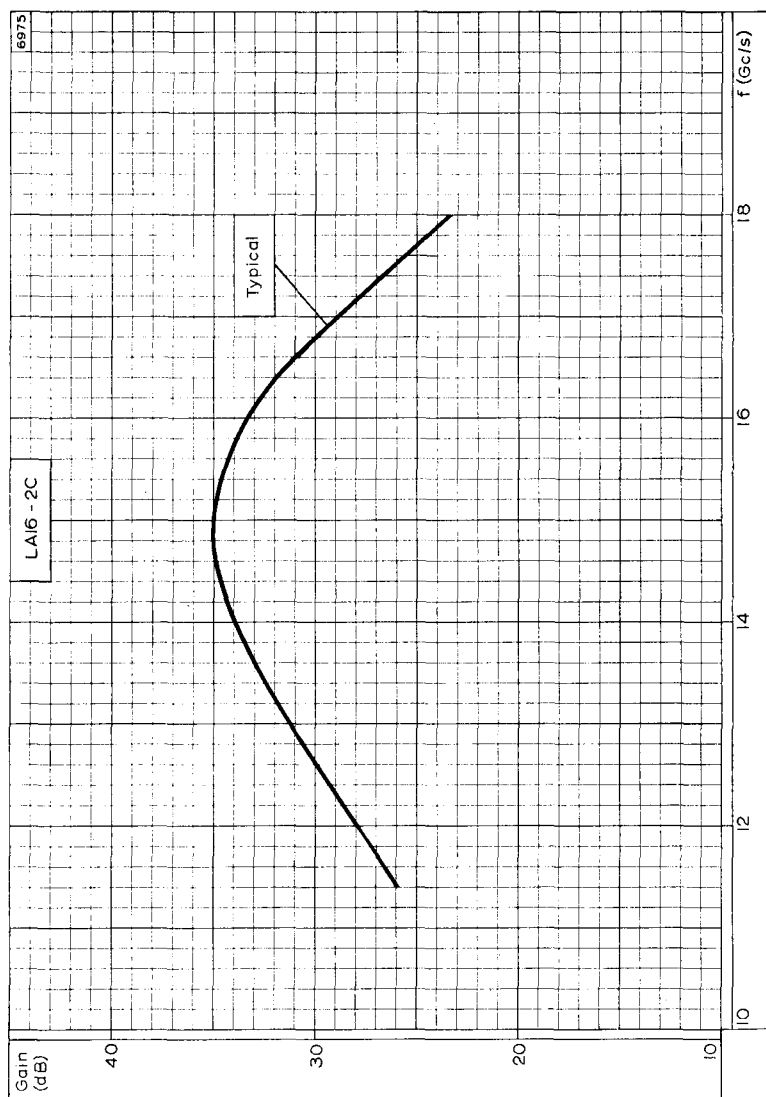
MOUNTING POSITION

Any

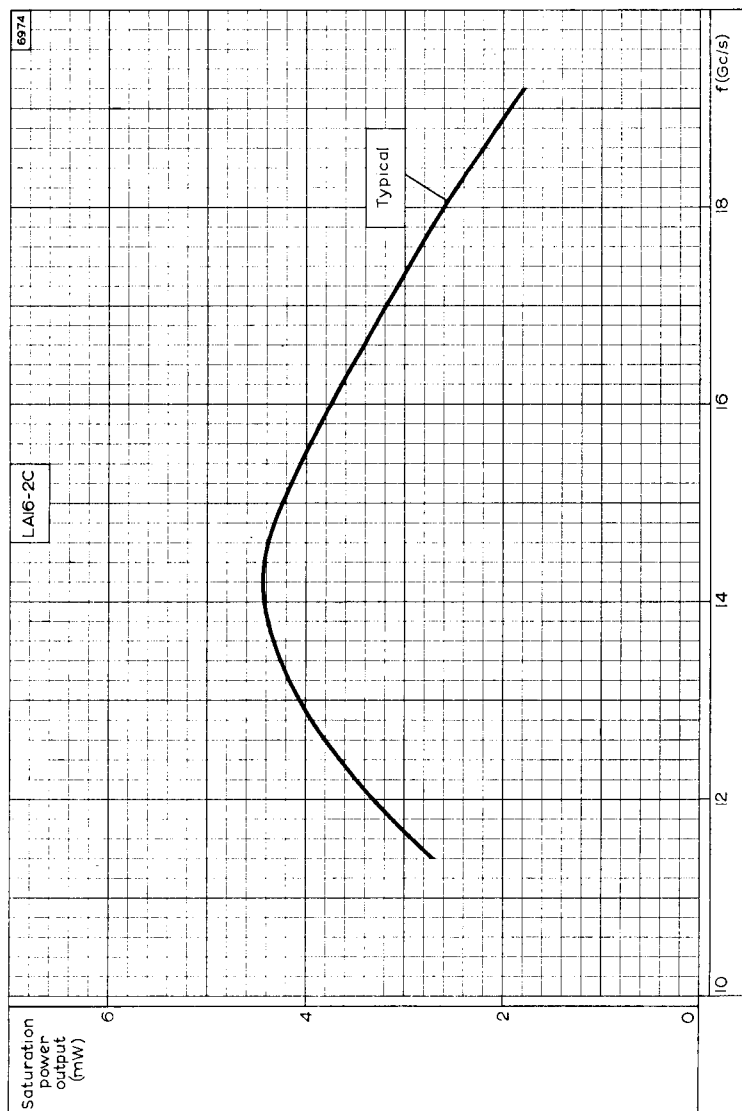
DIMENSIONS

	<i>Inches</i>	<i>Millimetres</i>
E	2.39	86 max.
F	5.39 ± 0.12	137 ± 3
H	7.828 ± 0.008	198.84 ± 0.2
J	3.11 ± 0.08	79 ± 2
K	0.47	12
L	2.80	71 dia.
N	3.976 ± 0.020	101 ± 0.5
Q	12	305

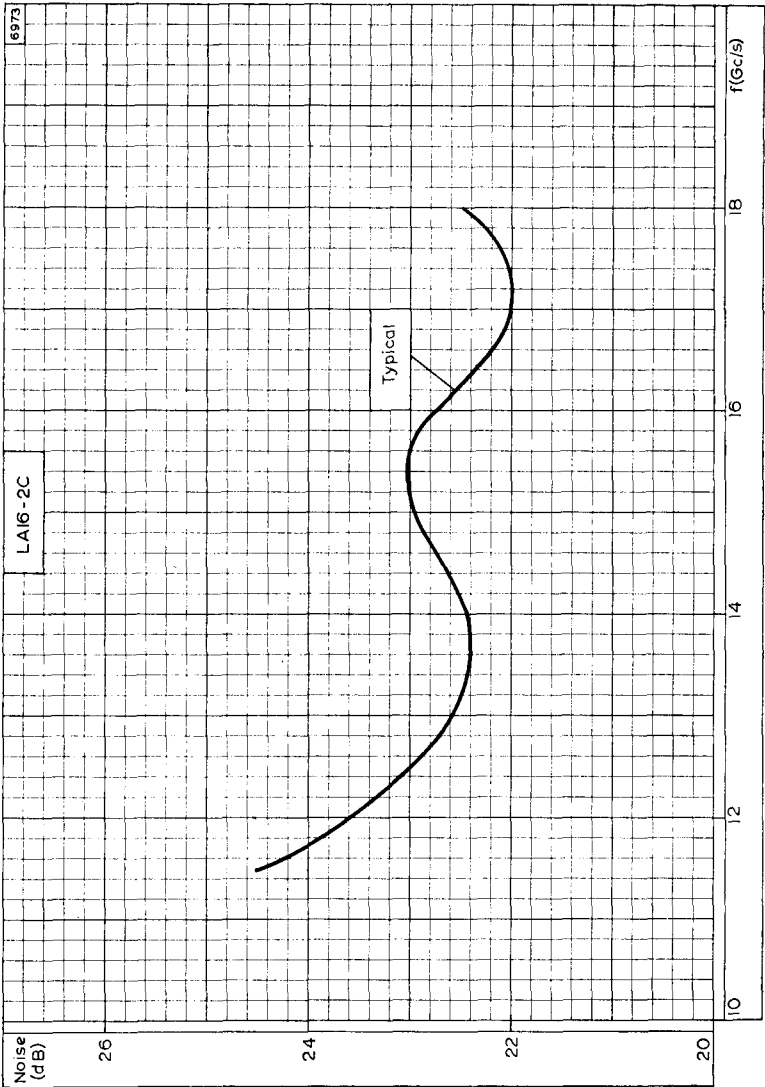




TYPICAL GAIN PLOTTED AGAINST FREQUENCY



SATURATION POWER OUTPUT PLOTTED AGAINST FREQUENCY



TYPICAL NOISE FACTOR PLOTTED AGAINST FREQUENCY