

DEVELOPMENT DATA

This data sheet contains advance information and specifications are subject to change without notice.

BGY110A

UHF AMPLIFIER MODULE

The BGY110A is a four-stage UHF amplifier module designed primarily for hand-held transmitting equipment, operating from a nominal 6 V power supply.

The module consists of four npn silicon planar transistor chips mounted on a metallized ceramic substrate, together with matching and bias circuitry. The module produces an output power of 1.2 W into a $50\ \Omega$ load over the frequency band of 824 - 849 MHz. The output power can be controlled by means of a DC voltage (V_{S2}).

QUICK REFERENCE DATA

Mode of operation	CW
Frequency range	f 824 to 849 MHz
Supply voltage	V_S 6.0 V
Load power	P_L min. 1.2 W
Gain	G min. 30.8 dB
Load impedance	Z_L nom. 50 Ω

MECHANICAL DATA

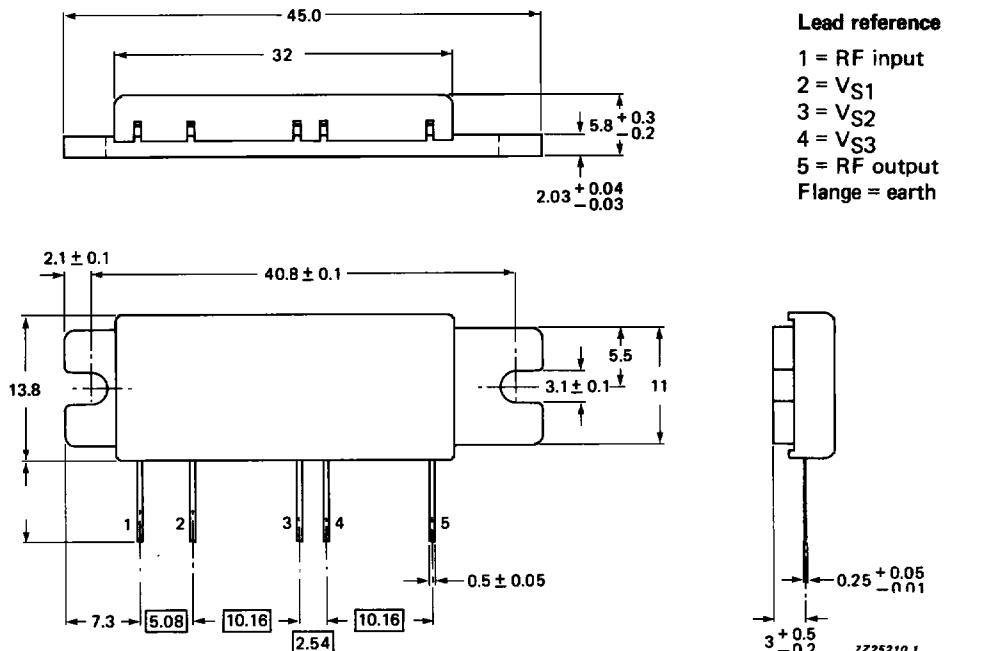


Fig. 1 SOT-246.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

DC supply terminal voltages*	V_{S1}, V_{S2}, V_{S3}	max.	8.0 V
RF input terminal voltage*	$+V_{in}$	max.	25 V
RF output terminal voltage*	$+V_{out}$	max.	25 V
RF load power	P_L	max.	1.6 W
RF drive power	P_D	max.	2.0 mW
Storage temperature range	T_{stg}	—	—40 to +100 °C
Operating heatsink temperature	T_h	max.	90 °C

CHARACTERISTICS

$V_{S1} = V_{S2} = V_{S3} = 6$ V; $T_h = 25$ °C; $f = 824 - 849$ MHz; $R_S = R_L = 50 \Omega$ unless otherwise specified

Load power

$P_D = 1$ mW P_L min. 1.2 W

Efficiency

$P_L = 1.2$ W η min. 40 %

Harmonic rejection

$P_L = 1.2$ W d2 min. 40 dB
d3 min. 45 dB

Input VSWR

$P_L = 1.2$ W VSWR max. 2 : 1

Gain control

$P_D = 1$ mW ΔG_P min. 30 dB

Power switching

$V_{S1} = 0$ V; $P_D = 1$ mW P_L max. —20 dBm

Stability

All spurious signals will be at least 60 dB below the desired output signal level with a load mismatch $VSWR < 3 : 1$ when operated with $V_{S1}, V_{S3} = 4$ to 8 V and $V_{S2} = 0$ to 8 V; $P_D = 0.5$ to 2 mW, providing maximum ratings are not exceeded.

Ruggedness

The module will withstand a load mismatch of 50 : 1 under the following conditions: $P_D = 1$ mW; $V_{S1}, V_{S3} = 8$ V; $P_L = 1.6$ W (matched).