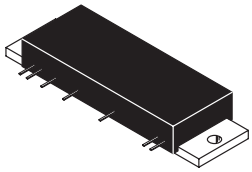
The RF Line

Microwave Bipolar Power Amplifier

- Specified 26 Volt Characteristics:
  RF Output Power: 15 Watts
  RF Power Gain: 32 dB Typ
  Efficiency: 25% Min
- 50 Ohm Input/Output System

MHW1815

15 W
1805–1880 MHz
RF POWER AMPLIFIER



CASE 301AK–01, STYLE 1

ARCHIVE INFORMATION

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
DC Supply Voltage	V_S	28	Vdc
DC Bias Voltage	V_B	5.5	Vdc
RF Input Power	P_{in}	17	dBm
RF Output Power	P_{out}	23	W
Operating Case Temperature Range	T_C	–30 to +85	°C
Storage Temperature Range	T_{stg}	–30 to +100	°C

ELECTRICAL CHARACTERISTICS (T_C = 25°C; V_S = 26 Vdc; V_{BIAS} = 5 Vdc; 50 Ω system)

Characteristic	Symbol	Min	Typ	Max	Unit
Frequency Range	BW	1805	—	1880	MHz
Total Quiescent Current (P_{in} = 0 mW)	I_q	—	300	—	mA
Power Gain (P_{out} = 15 W) (1)	G_p	30	32	—	dB
Output Power at 1 dB Compression	P1dB	15	—	—	Watts
Efficiency (1 dB Compression Power)	η	25	—	—	%
Input VSWR (P_{out} = 15 W)	$VSWR_{IN}$	—	—	2:1	—
Ripple (P_{out} = 15 W)	Rp	—	1	—	dB
Load Mismatch Stress (P_{out} = 15 W; Load VSWR = 3:1; at All Phase Angles)	ψ	No Degradation in Output Power			
Stability (P_{out} = 1 mW – 15 W; Load VSWR = 2:1; at All Phase Angles except Harmonics)	—	All Spurious Outputs More than 60 dB Below Desired Signal			
Stability (P_{out} = 1 mW – 15 W; Load VSWR = 2:1; f = 1805 – 1880 MHz; at All Phase Angles)	—	All Spurious Typically Lower than –36 dBm			

(1) Adjust P_{in} for specified P_{out}.

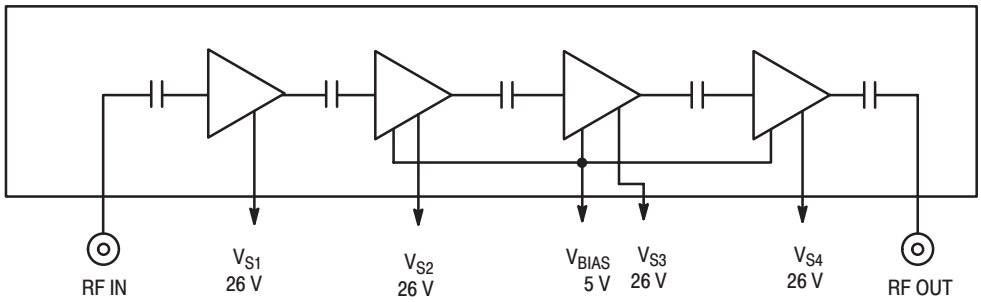


Figure 1. Internal Diagram

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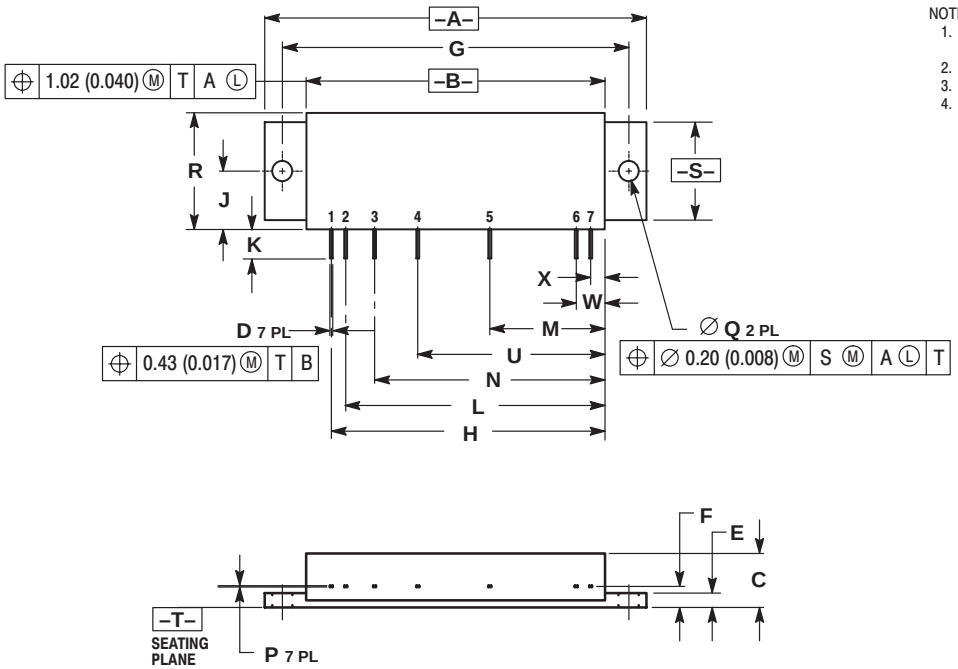
PACKAGE DIMENSIONS



NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: INCH.
3. DIMENSION F TO CENTER OF LEADS.
4. REF INDICATES NON–CONTROLLED DIMENSION FOR REFERENCE USE ONLY.

	INCHES		MILLIMETERS	
DIM	MIN	MAX	MIN	MAX
A	2.638	2.662	67.01	67.61
B	2.075 REF		52.71 REF	
C	---	0.375	---	9.53
D	0.017	0.023	0.43	0.58
E	0.098	0.114	2.49	2.90
F	0.134	0.156	3.40	3.96
G	2.405 BSC REF		61.09 BSC REF	
H	1.900 BSC		48.26 BSC	
J	0.390	0.430	9.91	10.92
K	0.175	0.217	4.45	5.51
L	1.800 BSC		45.72 BSC	
M	0.800 BSC		20.32 BSC	
N	1.600 BSC		40.64 BSC	
P	0.010 REF		0.25 REF	
Q	0.133	0.147	3.38	3.73
R	0.800	0.820	20.32	20.83
S	0.668	0.692	16.97	17.58
U	1.300 BSC		33.02 BSC	
W	0.200 BSC		5.08 BSC	
X	0.100 BSC		2.54 BSC	

STYLE 1:
PIN 1. RF INPUT
2. DC TERMINAL, Vs1
3. DC TERMINAL, Vs2
4. DC TERMINAL, Vb
5. DC TERMINAL, Vs3
6. DC TERMINAL, Vs4
7. RF OUTPUT

CASE 301AK–01
ISSUE C

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