

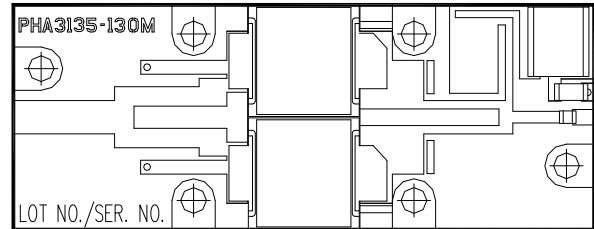
## Radar Pulsed Power Module 115, 130, 145 W, 3.1 - 3.5 GHz, 100 ms Pulse, 10% Duty

Rev. V1

### Features

- NPN silicon bipolar transistor
- Input and output matched to 50 W
- Duroid circuit board
- Easily combined for high power transmitters
- Plated copper flange

### Outline Drawing



### Electrical Specifications: $T_A = 25 \pm 5^\circ\text{C}$ , $V_{CC} = 36\text{ V}$ , $P_{IN} = 21\text{ W}$

Symbol	Parameter	Frequency	Min	Max	Units
$R_{TH(JC)}$	Thermal Resistance	3.1, 3.3, 3.5 GHz	-	0.24	$^\circ\text{C/W}$
$P_{OUT}$	Output Power	3.1 GHz 3.3 GHz 3.5 GHz	145 130 115	—	W
$G_P$	Power Gain	3.1 GHz 3.3 GHz 3.5 GHz	8.4 7.9 7.4	—	dB
$h_c$	Collector Efficiency	3.1, 3.3, 3.5 GHz	35	—	%
$R_L$	Input Return Loss	3.1, 3.3, 3.5 GHz	—	-6	dB
Droop	Pulse Droop	3.1, 3.3, 3.5 GHz	—	0.5	dB
VSWR-T	Load Mismatch Tolerance	3.1, 3.3, 3.5 GHz	—	3:1	—
VSWR-S	Load Mismatch Stability	3.1, 3.3, 3.5 GHz	—	2:1	—

### Typical RF Performance

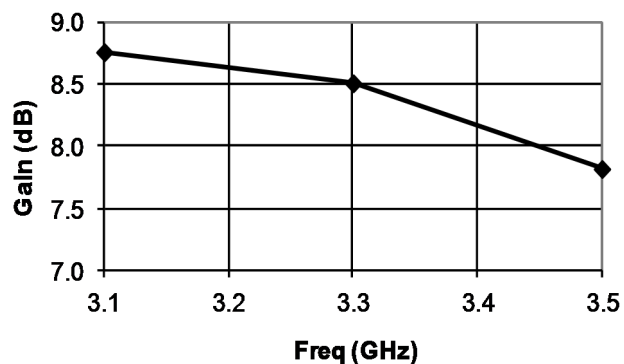
Freq. (GHz)	$P_{IN}$ (W)	$P_{OUT}$ (W)	Gain (dB)	$\Delta\text{Gain}$ (dB)	$I_C$ (A)	Eff (%)	$R_L$ (dB)	VSWR-S (2:1)	VSWR-T (3:1)
3.1	21	158	8.76	—	10.3	44.6	-12.3	S	P
3.3	21	149	8.51	—	9.7	42.7	-11.0	S	P
3.5	21	127	7.82	0.96	8.7	40.0	-14.7	S	P

## Absolute Maximum Ratings @ 25°C

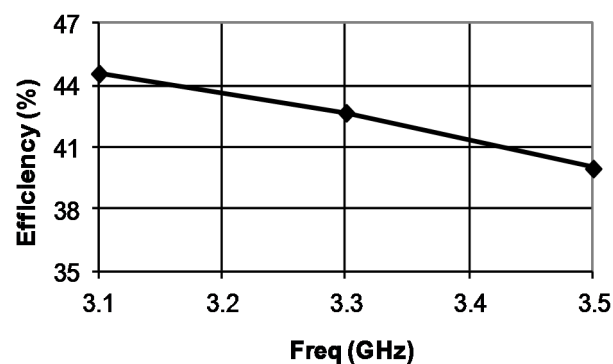
Symbol	Parameter	Rating
$I_C$	Collector Current (Peak)	23 A
$P_{TOT}$	Power Dissipation	730 W
$T_{OP}$	Operating Temperature	-30°C to +100°C
$T_{STG}$	Storage Temperature	-40°C to +125°C
$T_J$	Junction Temperature	200°C

## Typical Performance Curves

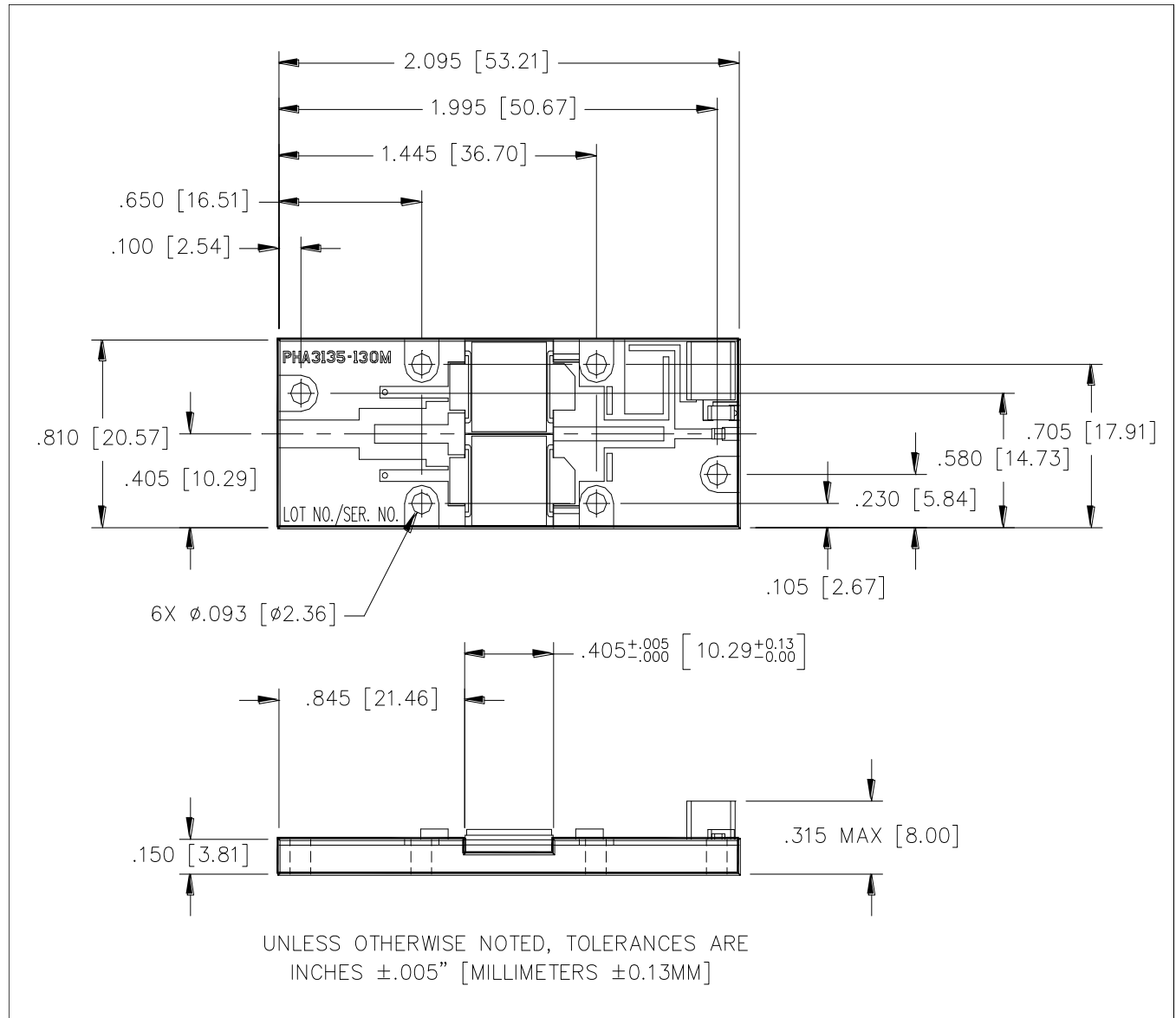
*Gain vs. Frequency*



*Collector Efficiency vs. Frequency*



## Power Module Dimensions



## Radar Pulsed Power Module

115, 130, 145 W, 3.1 - 3.5 GHz, 100 ms Pulse, 10% Duty

Rev. V1

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