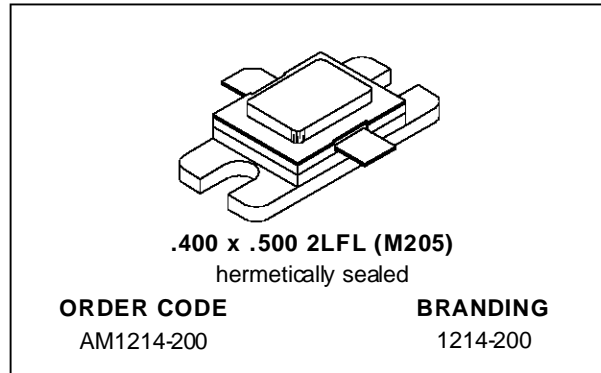


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

PRELIMINARY DATA

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- P_{OUT} = 200 W MIN. WITH 7.0 dB GAIN

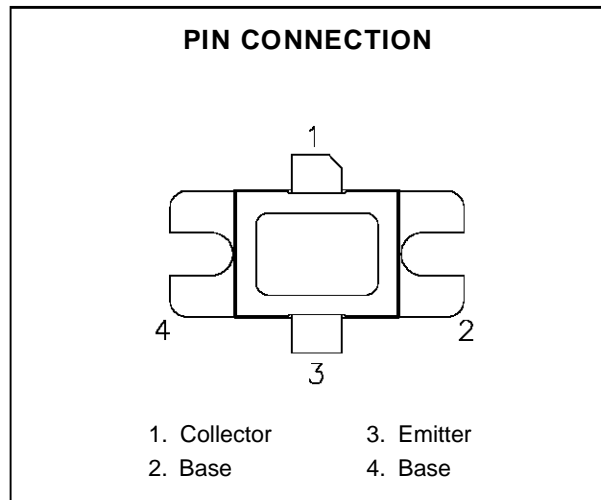


DESCRIPTION

The AM1214-200 device is a high power Class C transistor specifically designed for L-Band Radar pulsed output and driver applications.

This device is capable of operation over a wide range of pulse widths, duty cycles and temperatures, and will tolerate severe mismatch and over-drive conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

AM1214-200 is supplied in the BIGPAC™ hermetic metal/ceramic package with internal input/output matching structures.



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
P _{DISS}	Power Dissipation* (T _c ≤ 100°C)	575	W
I _c	Device Current*	16	A
V _{CC}	Collector-Supply Voltage*	40	V
T _J	Junction Temperature (Pulsed RF Operation)	250	°C
T _{STG}	Storage Temperature	- 65 to +200	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance*	0.26	°C/W
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*Applies only to rated RF amplifier operation

AM1214-200

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 50mA	I _E = 0mA	70	—	—	V
BV _{EBO}	I _E = 30mA	I _C = 0mA	3.0	—	—	V
BV _{CES}	I _C = 50mA	V _{BE} = 0V	70	—	—	V
I _{CES}	V _{BE} = 0V	V _{CE} = 40V	—	—	30	mA
h _{FE}	V _{CE} = 5V	I _C = 500mA	10	—	—	—

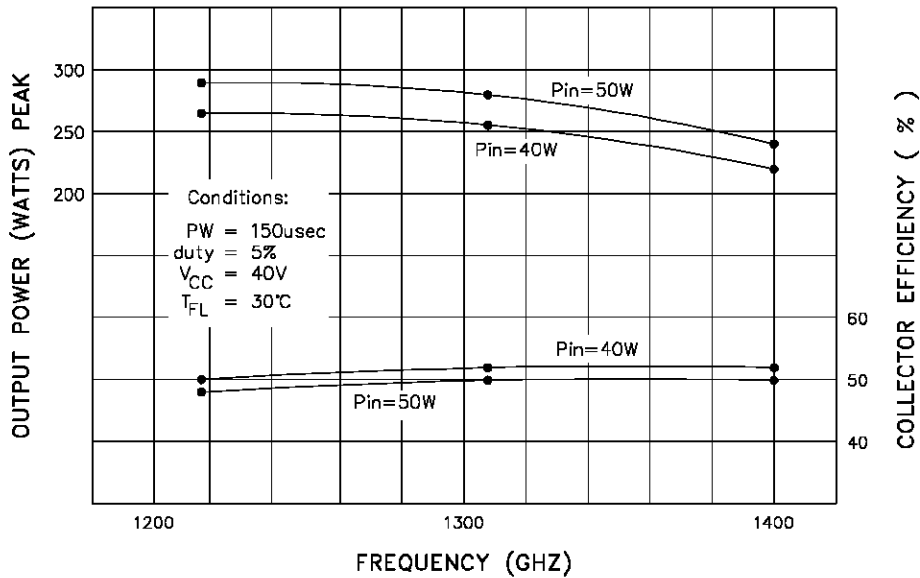
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 1215 — 1400MHz	P _{IN} = 40W	V _{CC} = 40V	200	—	—	W
η _C	f = 1215 — 1400MHz	P _{IN} = 40W	V _{CC} = 40V	45	—	—	%
G _P	f = 1215 — 1400MHz	P _{IN} = 40W	V _{CC} = 40V	7.0	—	—	dB

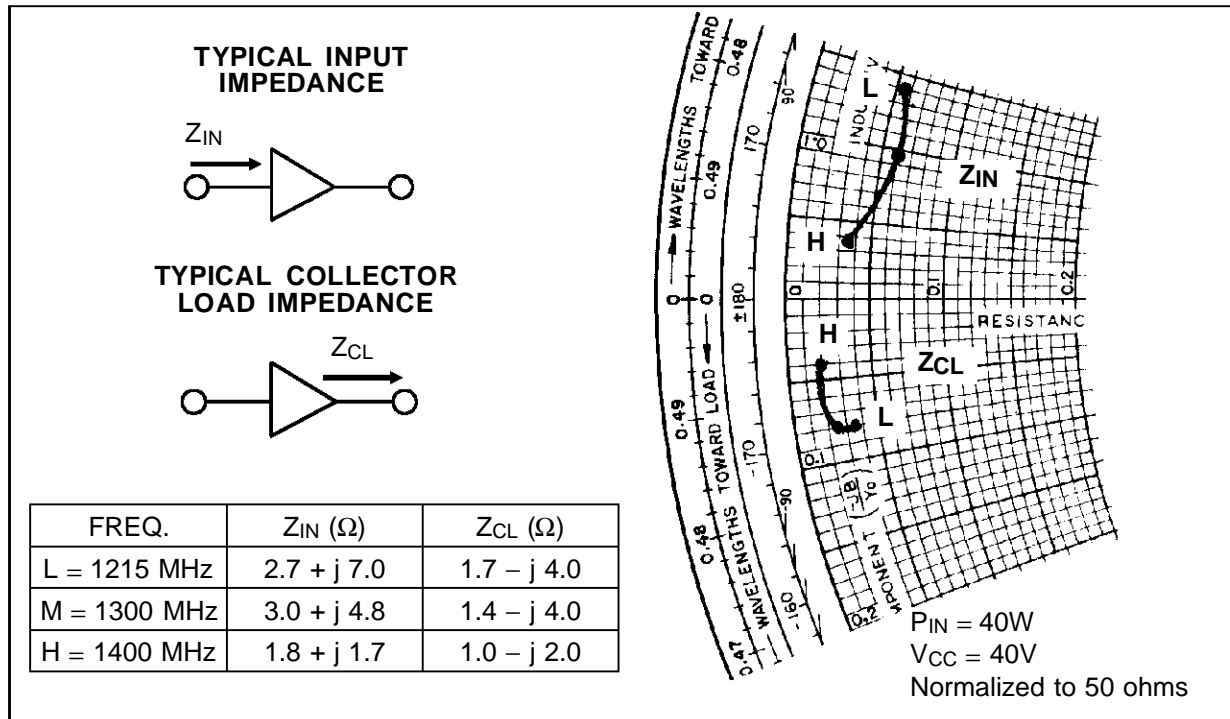
Note: Pulse Width = 150μSec
Duty Cycle = 5%

TYPICAL PERFORMANCE

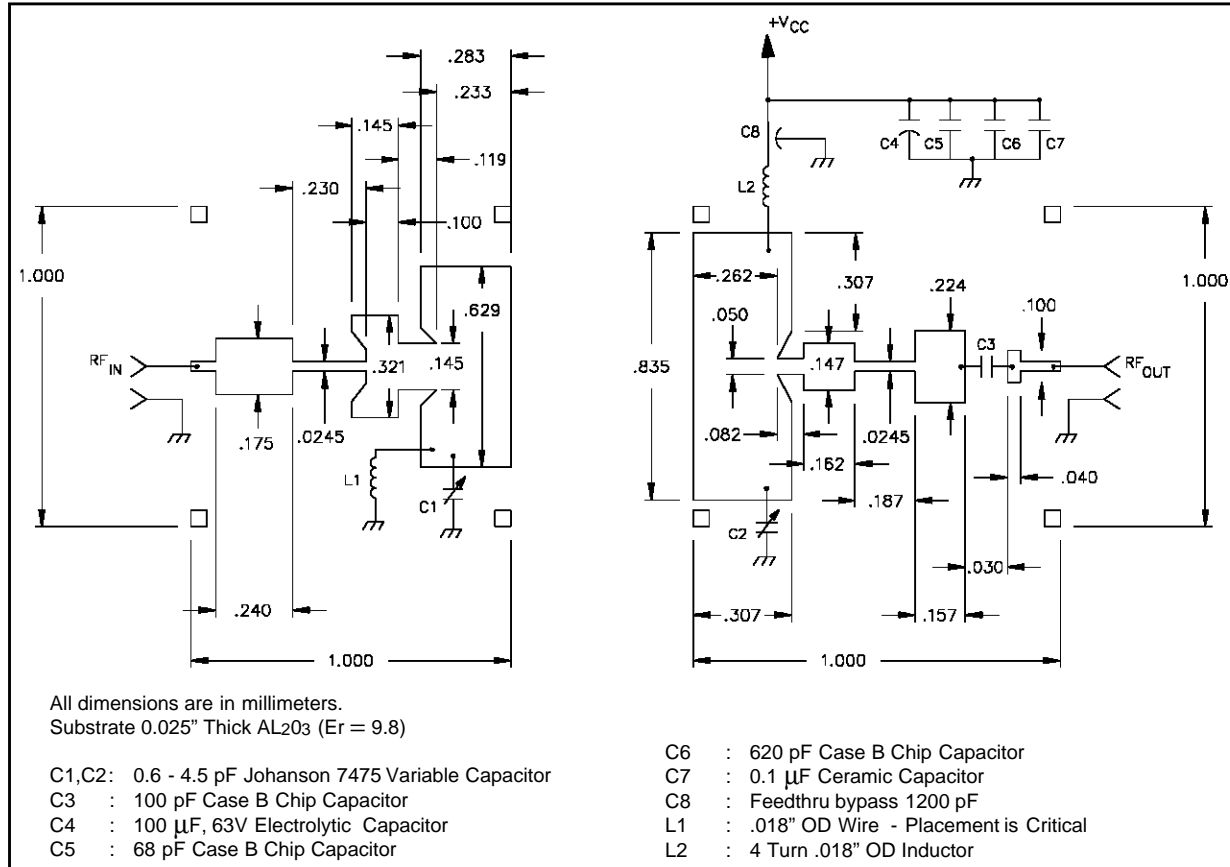
POWER OUTPUT & COLLECTOR EFFICIENCY vs FREQUENCY



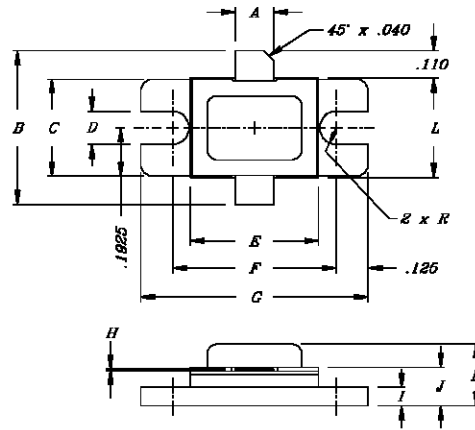
IMPEDANCE DATA



TEST CIRCUIT



PACKAGE MECHANICAL DATA



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches / mm	MAXIMUM Inches / mm
A	.145 / 3.68	.155 / 3.93
B	.600 / 15.24	
C	.380 / 9.65	.390 / 9.91
D	.130 / 3.30	
E	.495 / 12.57	.507 / 12.88
F	.640 / 16.26	.655 / 16.64
G	.890 / 22.61	.910 / 23.11
H	.002 / 0.05	.006 / 0.15
I	.055 / 1.40	.065 / 1.65
J	.115 / 2.92	.135 / 3.43
K		.230 / 5.84
L	.395 / 10.03	.407 / 10.34

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