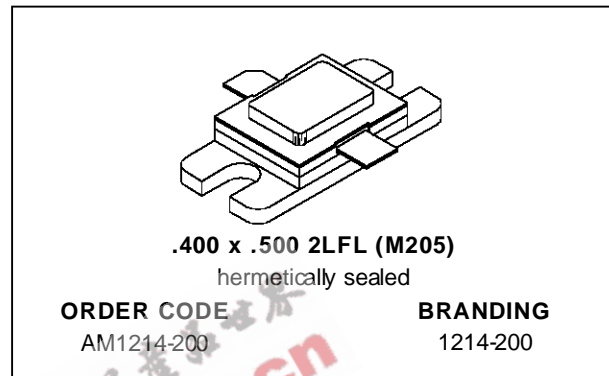


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

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

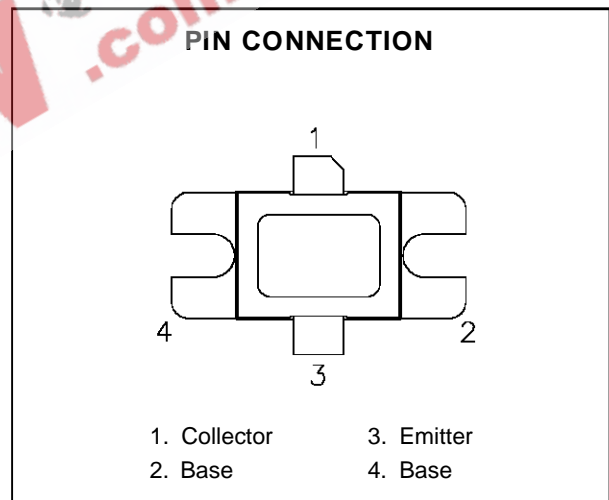


DESCRIPTION

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 ($T_{case} = 25^{\circ}C$)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_c \leq 100^{\circ}C$)	575	W
I_c	Device Current*	16	A
V_{CC}	Collector-Supply Voltage*	40	V
T_J	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	0.26	$^{\circ}C/W$
---------------	-----------------------------------	------	---------------

*Applies only to rated RF amplifier operation

AM1214-200

ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

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	—	—	—

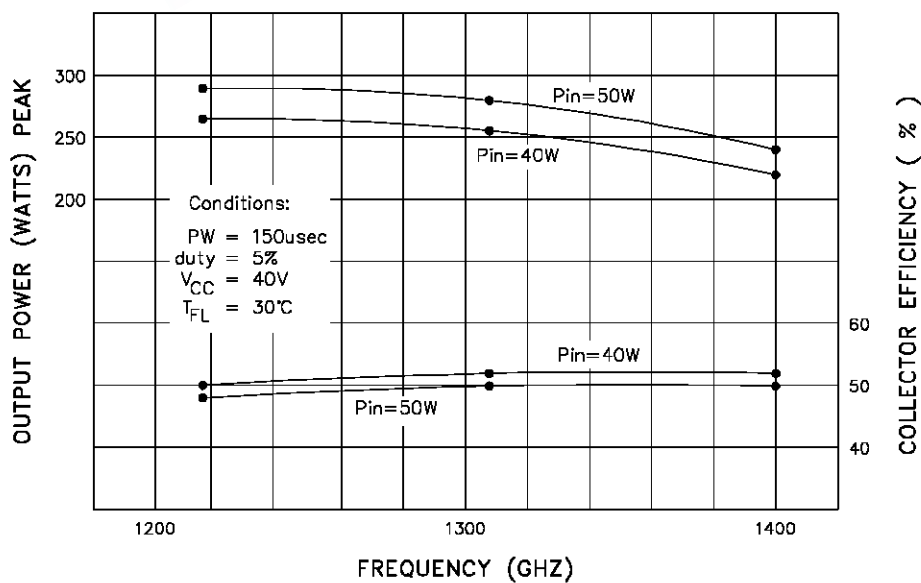
DYNAMIC

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

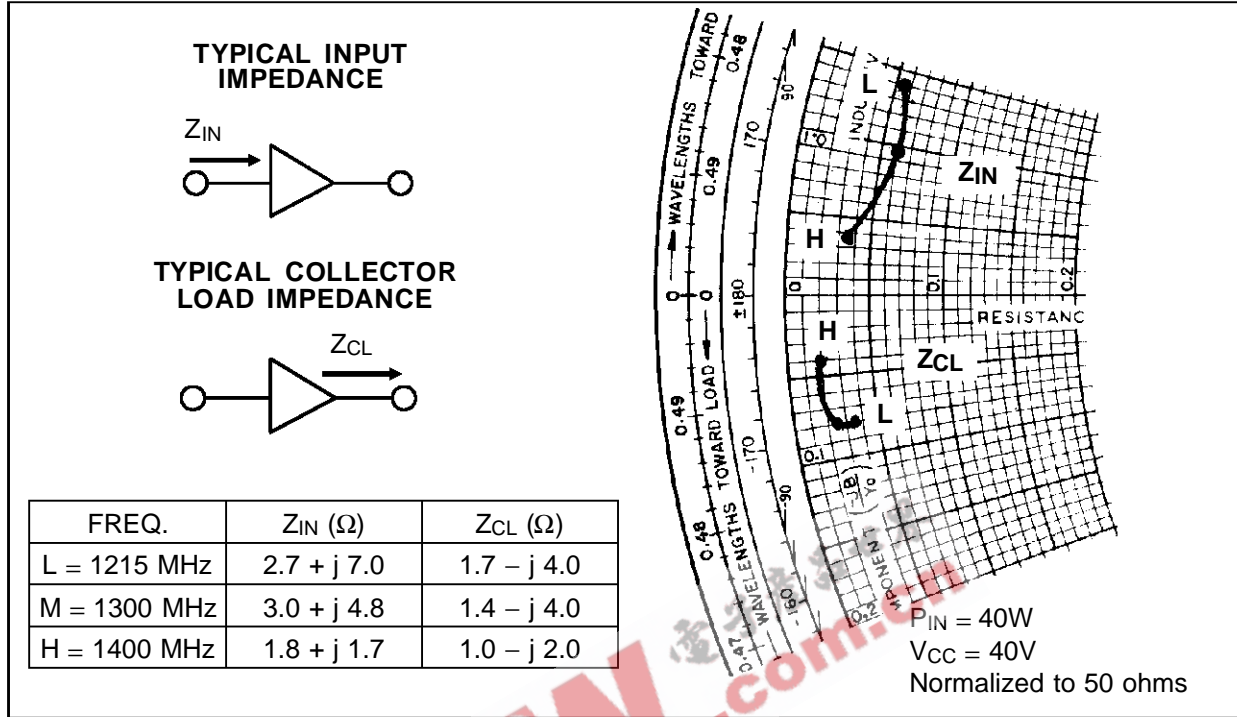
Note: Pulse Width = 150 μ Sec
Duty Cycle = 5%

TYPICAL PERFORMANCE

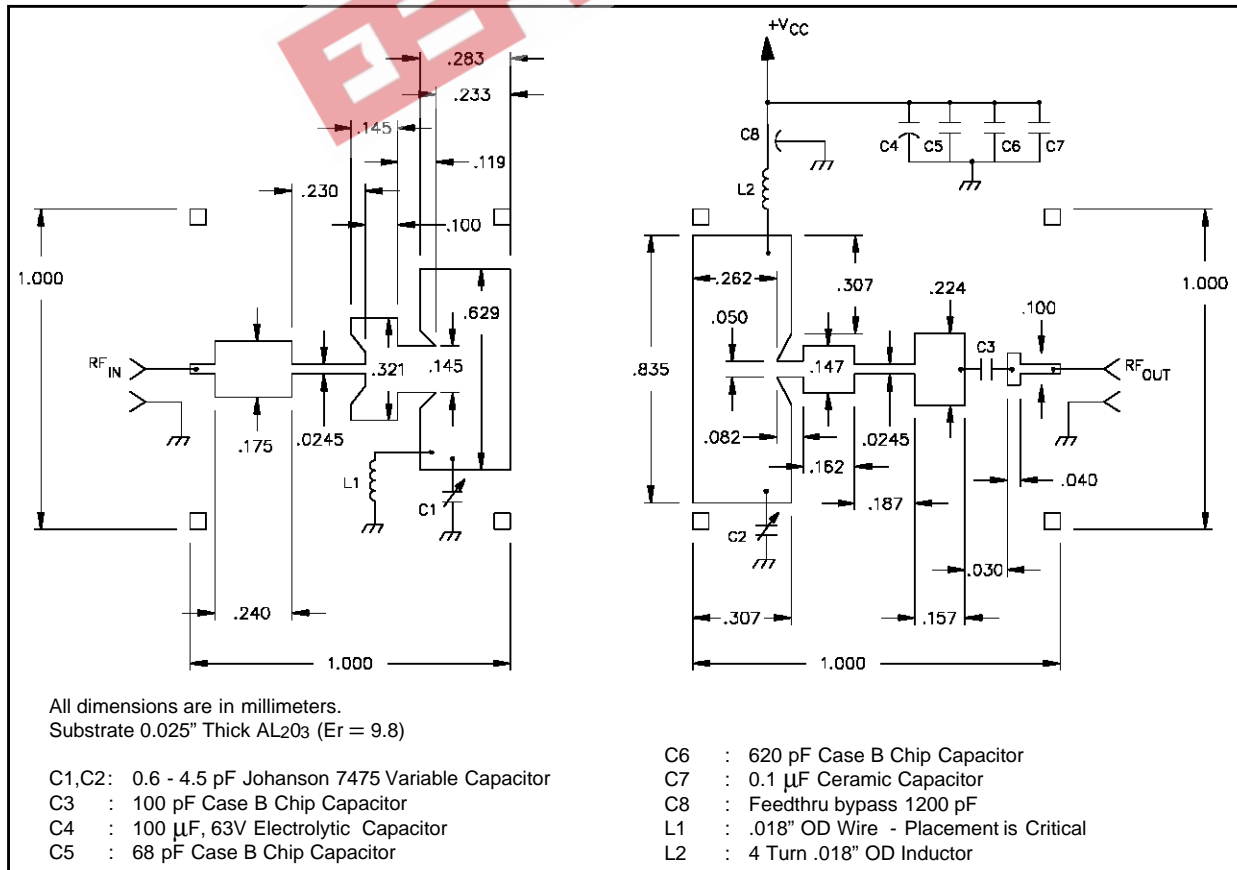
POWER OUTPUT & COLLECTOR EFFICIENCY vs FREQUENCY



IMPEDANCE DATA

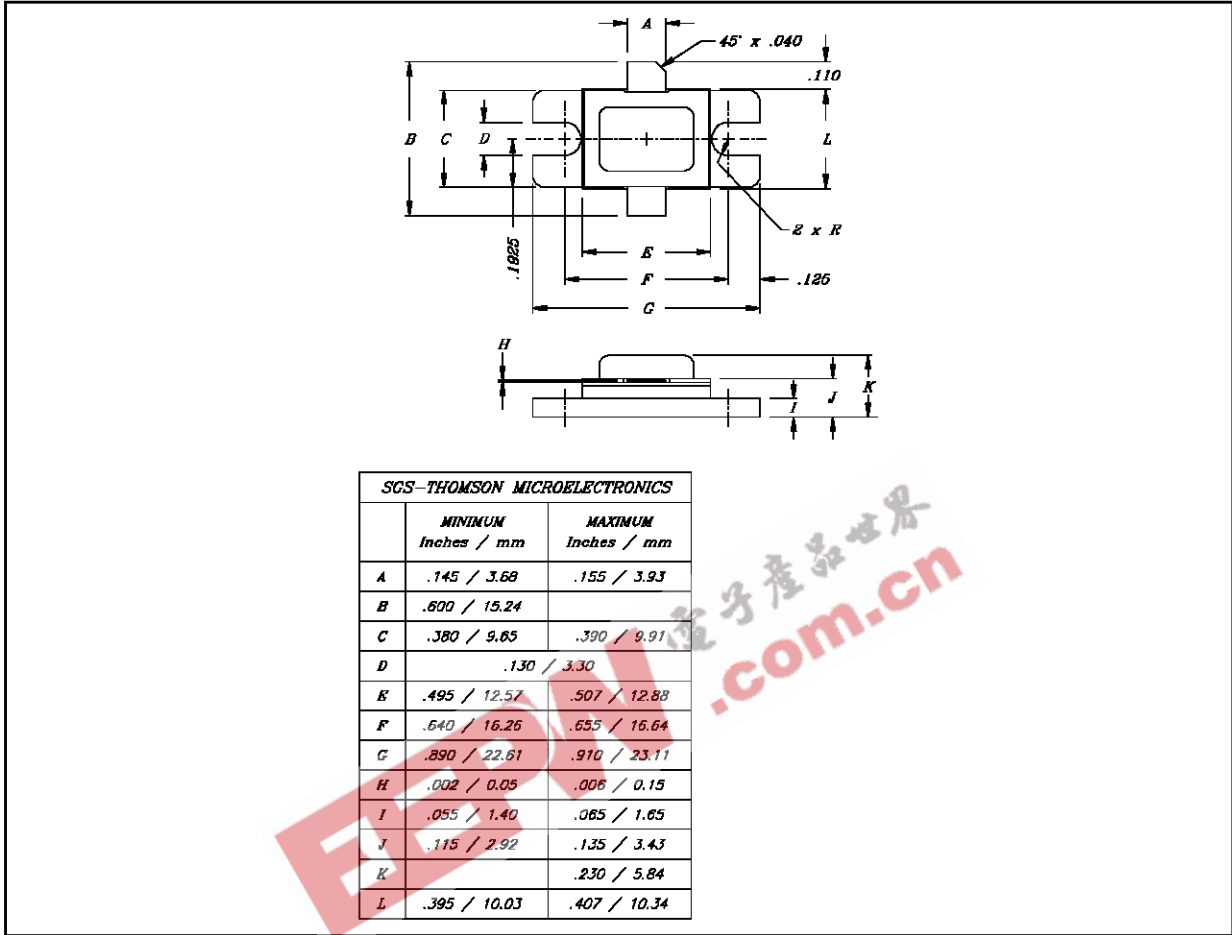


TEST CIRCUIT



AM1214-200

PACKAGE MECHANICAL DATA



Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may result from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
 Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
 Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A