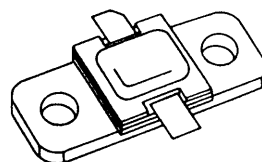


RF & MICROWAVE TRANSISTORS L-BAND RADAR APPLICATIONS

- REFRACTORY/GOLD METALLIZATION
- EMITTER SITE BALLASTED
- 5:1 VSWR CAPABILITY
- LOW THERMAL RESISTANCE
- INPUT/OUTPUT MATCHING
- OVERLAY GEOMETRY
- METAL/CERAMIC HERMETIC PACKAGE
- $P_{OUT} = 5.5 \text{ W MIN. WITH } 10 \text{ dB GAIN}$



.310 x .310 2LFL (S064)
hermetically sealed

ORDER CODE

AM81214-6

BRANDING

81214-6

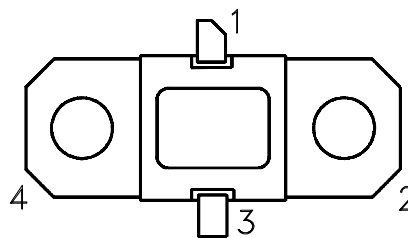
DESCRIPTION

The AM81214-006 device is a high power Class C transistor specifically designed for L-Band Radar pulsed driver applications.

This device is capable of operation over a wide range of pulse widths, duty cycles, and temperatures and is capable of withstanding 5:1 output VSWR at rated RF conditions. Low RF thermal resistance and computerized automatic wire bonding techniques ensure high reliability and product consistency.

AM81214-006 is supplied in the grounded IM-PAC™ Hermetic Metal/Ceramic package with internal input/output matching structures.

PIN CONNECTION



1. Collector

2. Base

3. Emitter

4. Base

ABSOLUTE MAXIMUM RATINGS ($T_{case} = 25^{\circ}\text{C}$)

Symbol	Parameter	Value	Unit
P_{DISS}	Power Dissipation* ($T_C \leq 100^{\circ}\text{C}$)	16.7	W
I_C	Device Current*	0.82	A
V_{CC}	Collector-Supply Voltage*	32	V
T_J	Junction Temperature (Pulsed RF Operation)	250	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +200	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance*	9.0	$^{\circ}\text{C/W}$
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*Applies only to rated RF amplifier operation

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

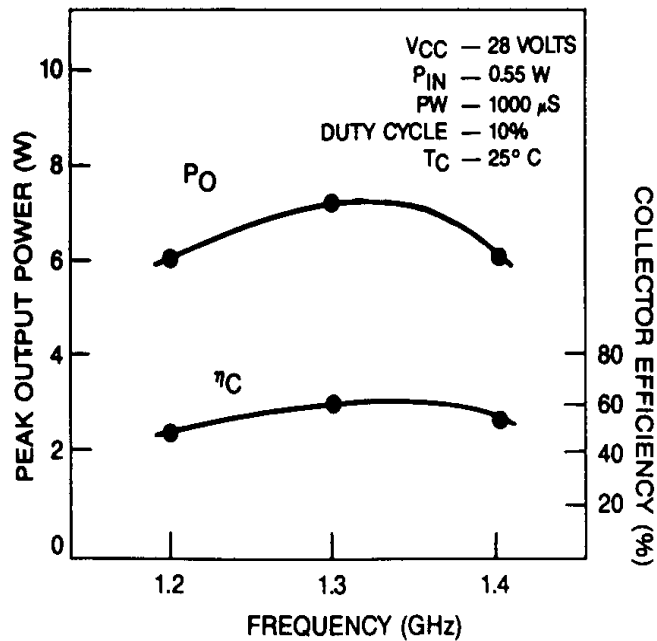
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 1 \text{ mA}$	$I_{\text{E}} = 0 \text{ mA}$	48	—	—	V
BV_{CER}	$I_{\text{C}} = 5 \text{ mA}$	$R_{\text{BE}} = 10\Omega$	48	—	—	V
BV_{EBO}	$I_{\text{E}} = 1 \text{ mA}$	$I_{\text{C}} = 0 \text{ mA}$	3.5	—	—	V
I_{CES}	$V_{\text{BE}} = 0 \text{ V}$	$V_{\text{CE}} = 28 \text{ V}$	—	—	500	μA
h_{FE}	$V_{\text{CE}} = 5 \text{ V}$	$I_{\text{C}} = 500 \text{ mA}$	15	—	300	—

DYNAMIC

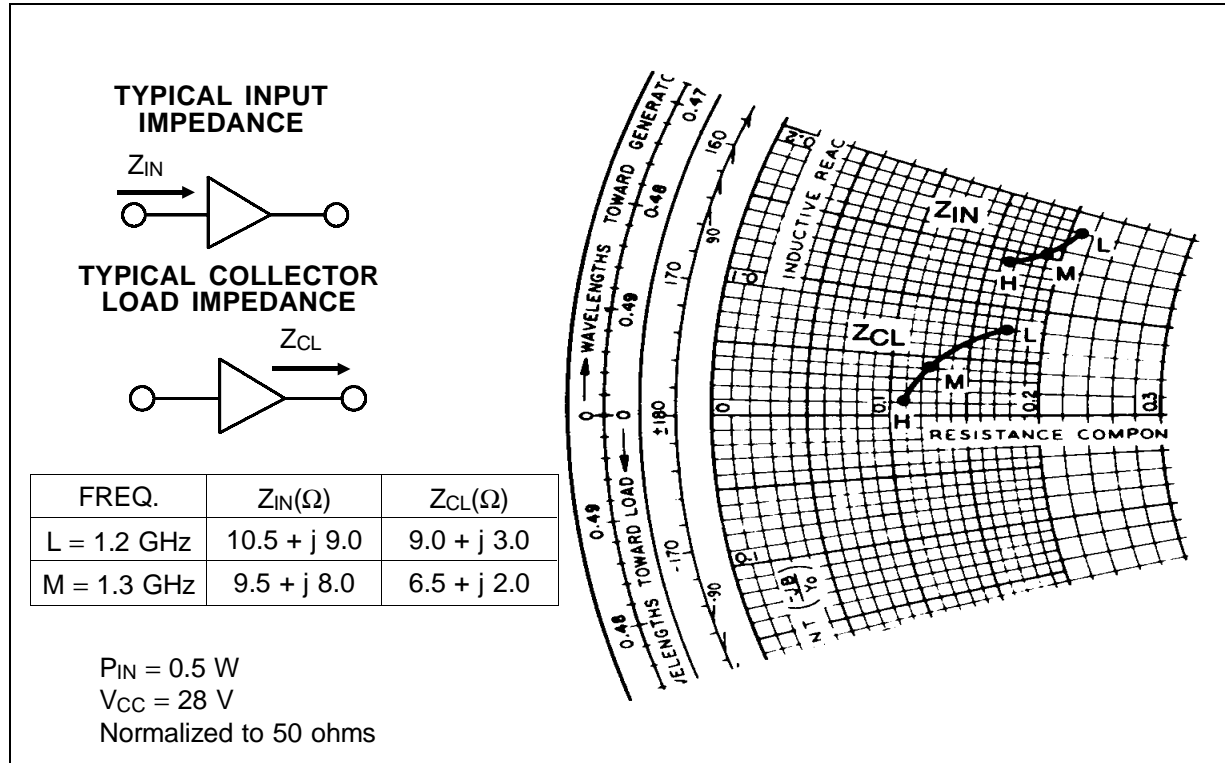
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 1.2 \text{ — } 1.4 \text{ GHz}$	$P_{\text{IN}} = 0.5 \text{ W}$	$V_{\text{CC}} = 28 \text{ V}$	—	5.5	6.2	W
η_{C}	$f = 1.2 \text{ — } 1.4 \text{ GHz}$	$P_{\text{IN}} = 0.5 \text{ W}$	$V_{\text{CC}} = 28 \text{ V}$	47	52	—	%
G_{P}	$f = 1.2 \text{ — } 1.4 \text{ GHz}$	$P_{\text{IN}} = 0.5 \text{ W}$	$V_{\text{CC}} = 28 \text{ V}$	10	10.5	—	dB

Note: Pulse Width = 1000 μs

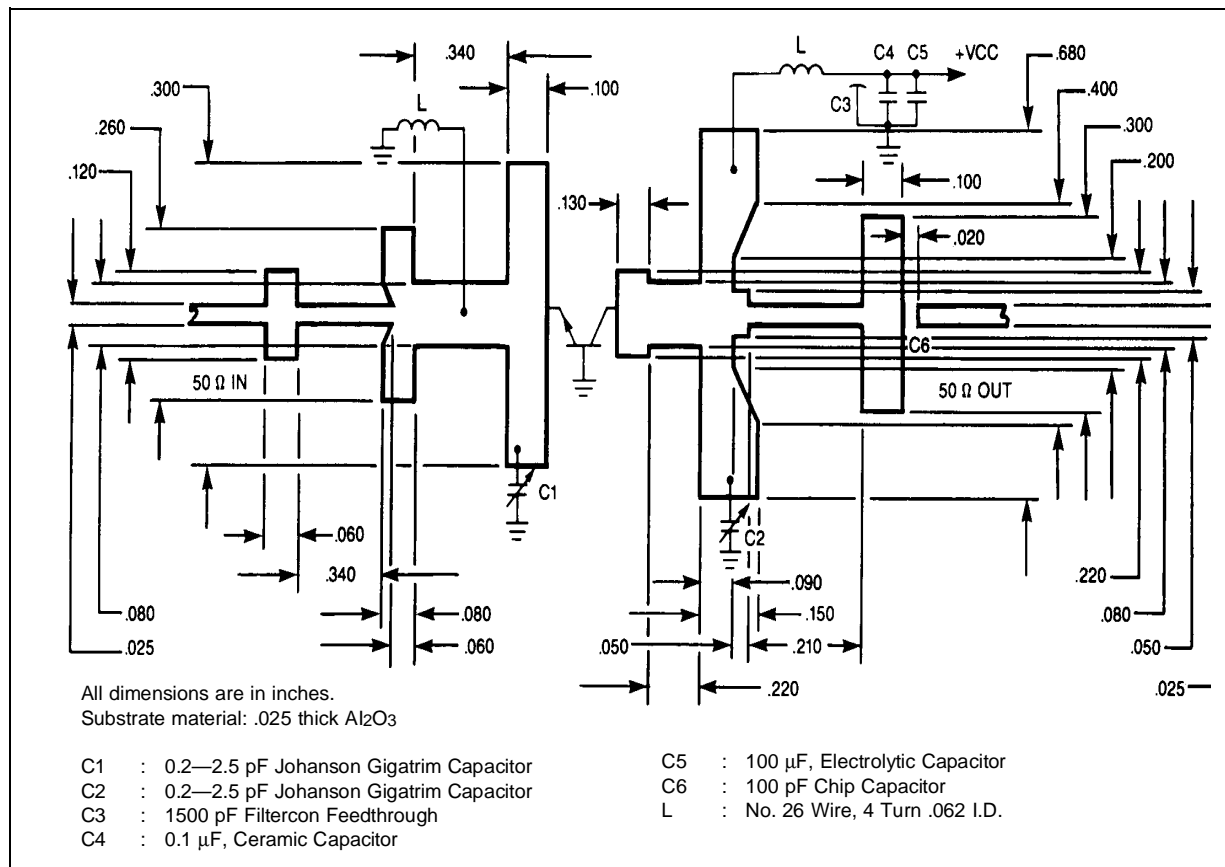
Duty Cycle = 10%

TYPICAL PERFORMANCE**TYPICAL BROADBAND
PERFORMANCE**

IMPEDANCE DATA

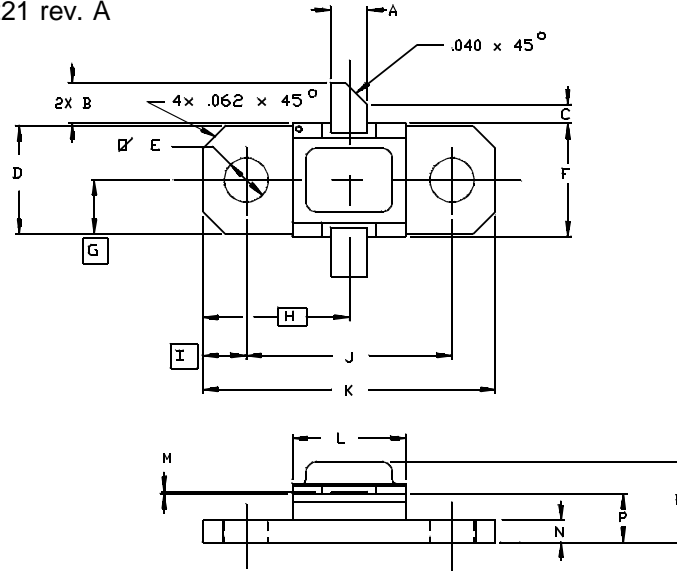


TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No. 12-0221 rev. A



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.095/2,41	.105/2,67	K	.790/20,07	.810/20,57
B	.100/2,54	.120/3,05	L	.300/7,62	.320/8,13
C	.050/1,27		M	.003/0,08	.006/0,15
D	.286/7,26	.306/7,77	N	.052/1,32	.072/1,83
E	.110/2,79	.130/3,30	P	.118/3,00	.131/3,33
F	.306/7,77	.318/8,08	R		.230/5,84
G	.148/3,76				
H	.400/10,16				
I	.119/3,02				
J	.552/14,02	.572/14,53			

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