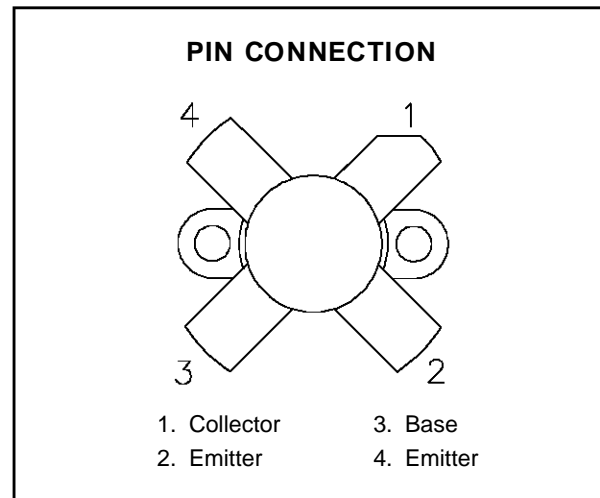
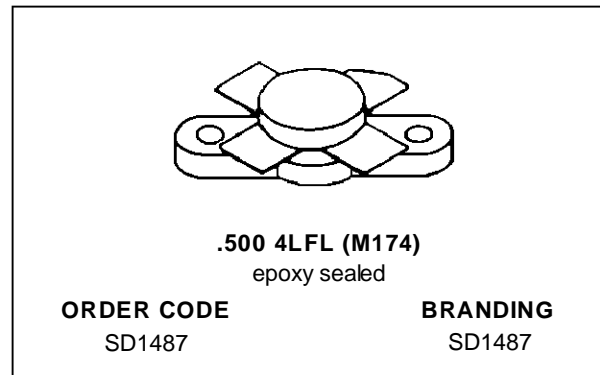


**RF & MICROWAVE TRANSISTORS
HF SSB APPLICATIONS**

- 30 MHz
- 12.5 VOLTS
- IMD -30 dB
- COMMON EMITTER
- GOLD METALLIZATION
- P_{OUT} = 100 W MIN. WITH 12.0 dB GAIN


DESCRIPTION

The SD1487 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for HF communications. This device utilizes state-of-the-art diffused emitter ballasting to achieve extreme ruggedness under severe operating conditions.

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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	36	V
V _{CEO}	Collector-Emitter Voltage	18	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	20	A
P _{DISS}	Power Dissipation	290	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	0.6	°C/W
----------------------	----------------------------------	-----	------

SD1487

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 100mA	I _E = 0mA	36	—	—	V
BV _{CES}	I _C = 100mA	V _{BE} = 0V	36	—	—	V
BV _{CEO}	I _C = 100mA	I _B = 0mA	18	—	—	V
BV _{EBO}	I _E = 20mA	I _C = 0mA	4.0	—	—	V
I _{CES}	V _{CE} = 15V	I _E = 0mA	—	—	20	mA
h _{FE}	V _{CE} = 5V	I _C = 5A	10	—	200	—

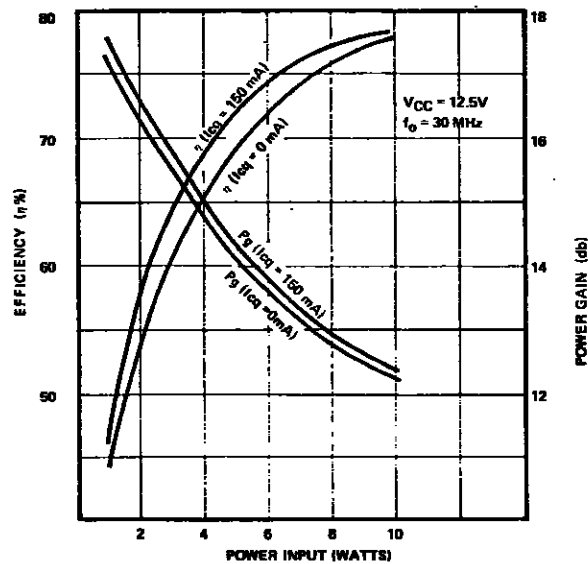
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 30 MHz	V _{CE} = 12.5 V	I _{CQ} = 150mA	100	—	—	W
G _P	f = 30 MHz	V _{CE} = 12.5 V	I _{CQ} = 150mA	11	13	—	dB
IMD ₃ *	P _{OUT} = 100WPEP	V _{CE} = 12.5 V	I _{CQ} = 150mA	—	—	-30	dBc
C _{OB}	f = 1 MHz	V _{CB} = 12.5 V		—	400	—	pF

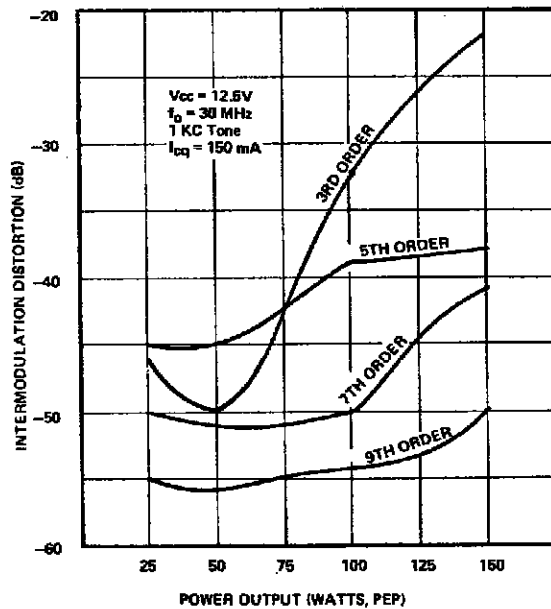
*Note: f = 30 + 30.001MHz

TYPICAL PERFORMANCE

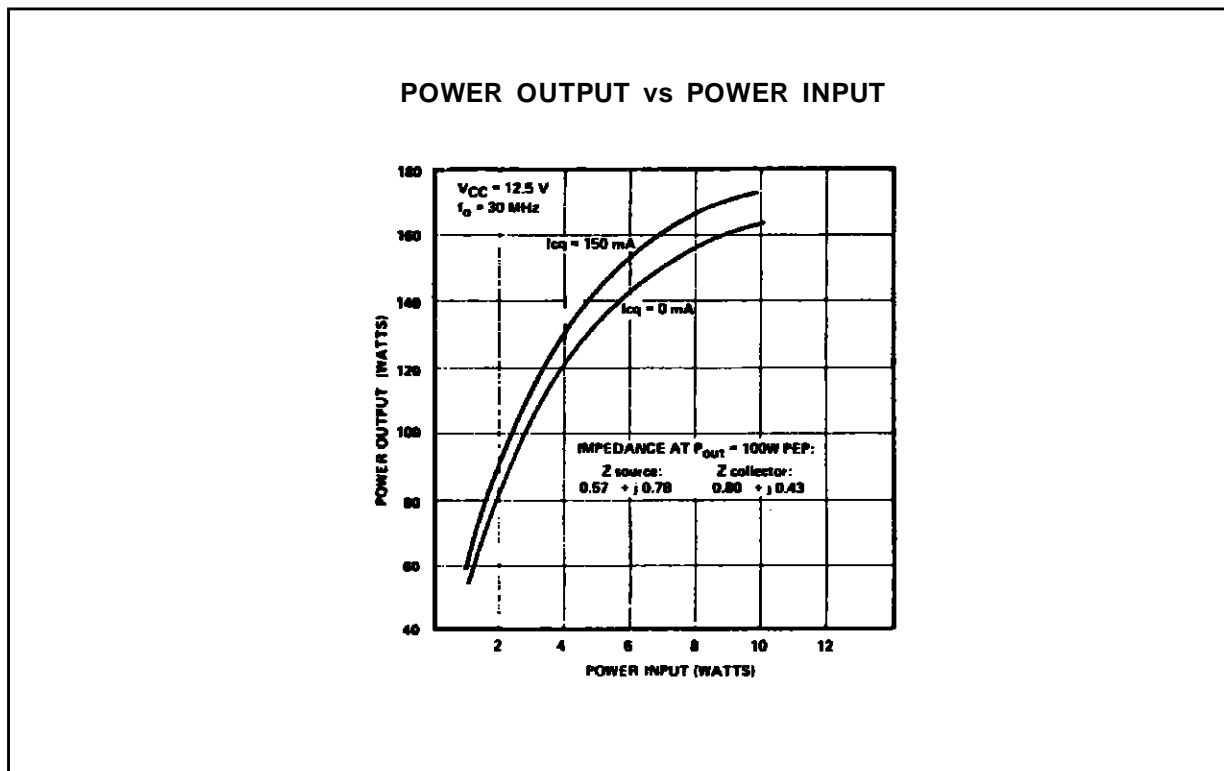
POWER GAIN & COLLECTOR EFFICIENCY vs POWER INPUT



IMD vs POWER OUTPUT, PEP



TYPICAL PERFORMANCE (cont'd)



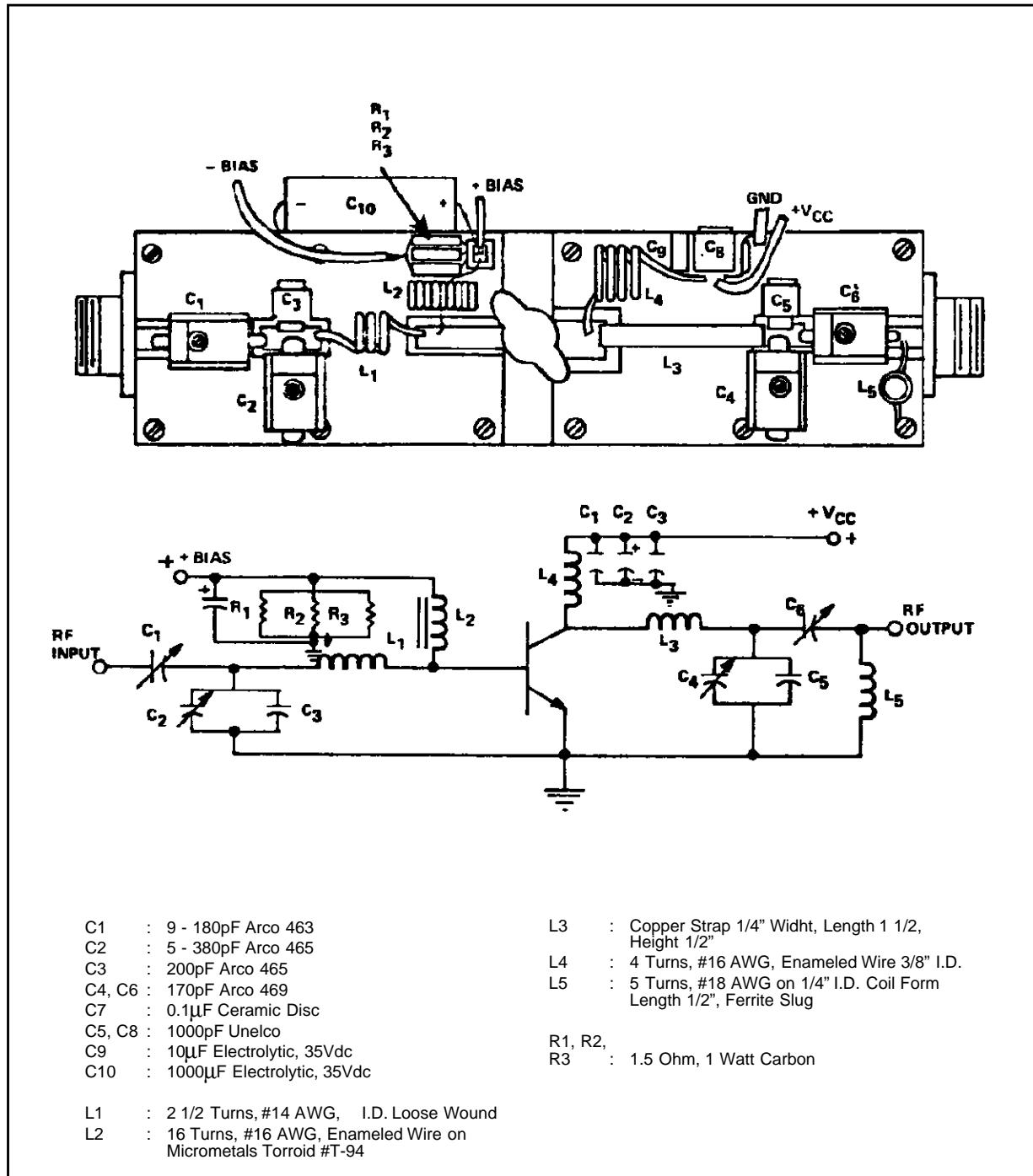
IMPEDANCE DATA

FREQ.	$Z_{IN} (\Omega)$	$Z_{CL} (\Omega)$
30 MHz	$0.57 + j 0.78$	$0.80 + j 0.43$

$P_{OUT} = 100 \text{ W PEP}$

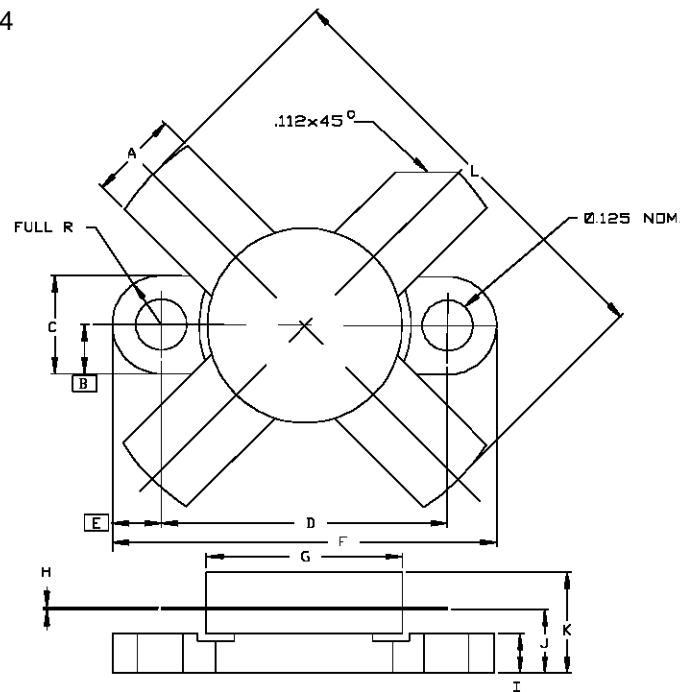
$V_{CE} = 12.5 \text{ V}$

TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0174



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84	K		.280/7,11
B	.125/3,18		L		1.050/26,67
C	.245/6,22	.255/6,48			
D	.720/18,28	.730/18,54			
E	.125/3,18				
F	.970/24,64	.980/24,89			
G	.495/12,57	.505/12,83			
H	.003/0,08	.007/0,18			
I	.090/2,29	.110/2,79			
J	.160/4,06	.175/4,45			

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