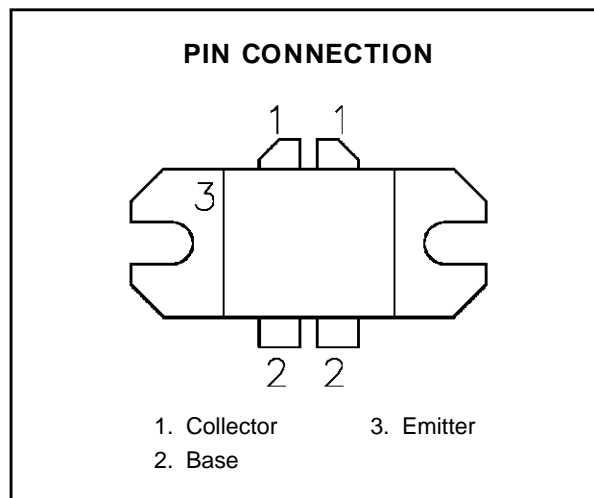
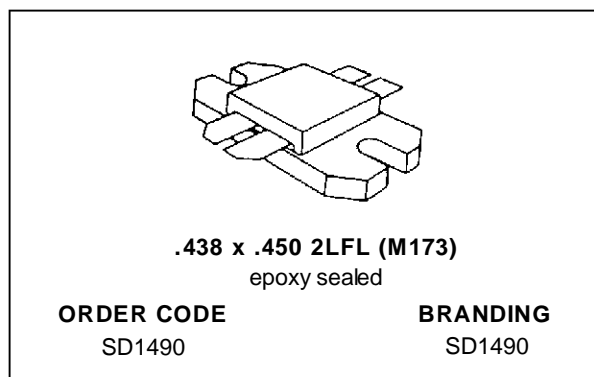


**RF & MICROWAVE TRANSISTORS
TV/LINEAR APPLICATIONS**

- 470 - 860 MHz
- 28 VOLTS
- CLASS A PUSH PULL
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- HIGH SATURATED POWER CAPABILITY
- GOLD METALLIZATION
- DIFFUSED EMITTER BALLAST RESISTORS
- COMMON EMITTER CONFIGURATION
- INTERNAL INPUT MATCHING
- P_{OUT} = 25 W MIN. WITH 9.0 dB GAIN


DESCRIPTION

The SD1490 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class A operation in UHF and Band IV, V television transmitters and transposers.

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	45	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{EBO}	Emitter-Base Voltage	3.0	V
I _c	Device Current	8	A
P _{DISS}	Power Dissipation	135	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 50 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	1.3	°C/W
----------------------	----------------------------------	-----	------

SD1490

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

STATIC

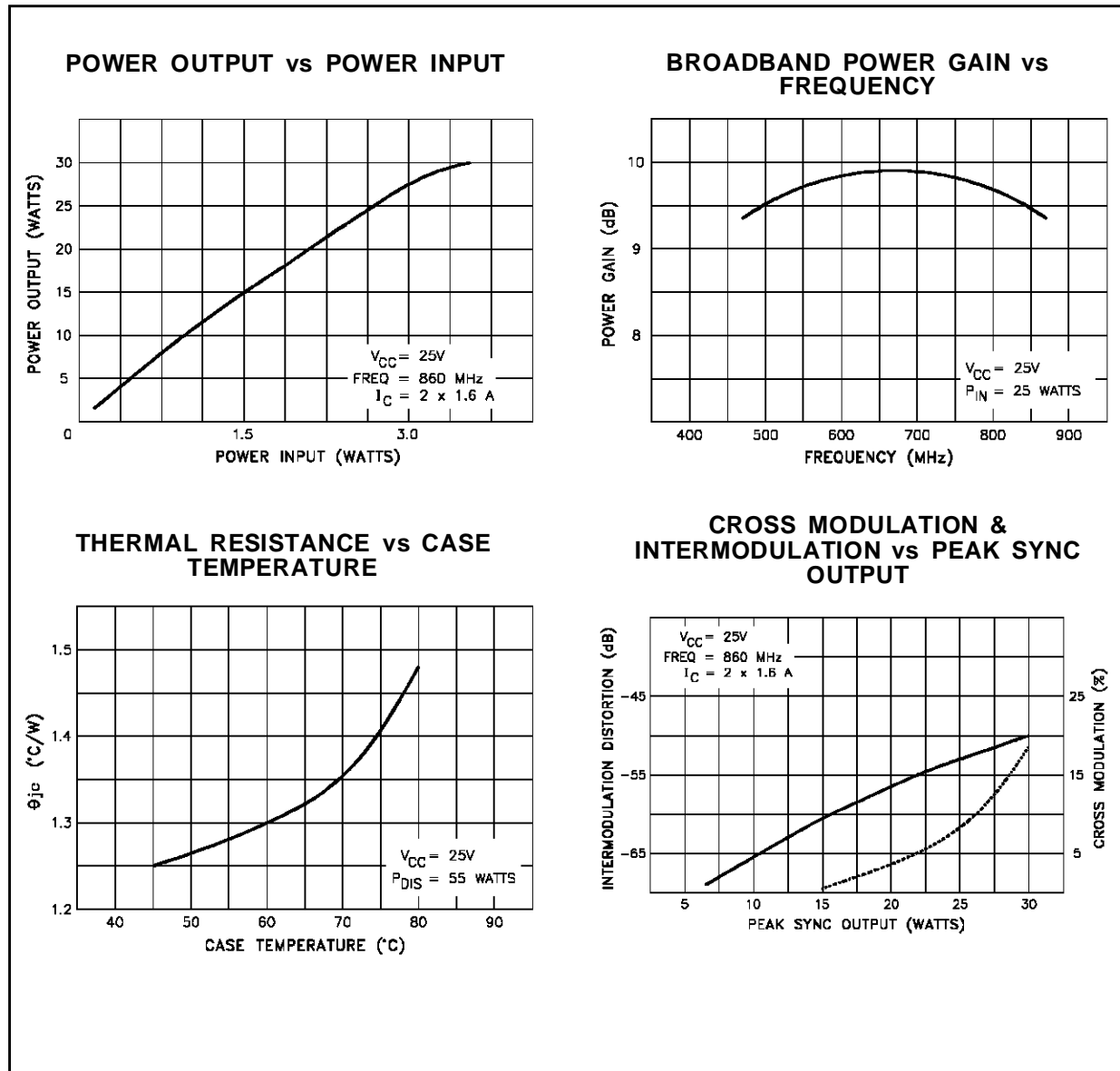
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 50\text{mA}$	$I_{\text{E}} = 0\text{mA}$	45	—	—	V
BV_{CEO}	$I_{\text{C}} = 200\text{mA}$	$I_{\text{B}} = 0\text{mA}$	30	—	—	V
BV_{EBO}	$I_{\text{E}} = 10\text{mA}$	$I_{\text{C}} = 0\text{mA}$	3.0	—	—	V
I_{CEO}	$V_{\text{CE}} = 25\text{V}$	$I_{\text{E}} = 0\text{mA}$	—	—	5	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$	$I_{\text{C}} = 3\text{A}$	10	—	80	—

DYNAMIC

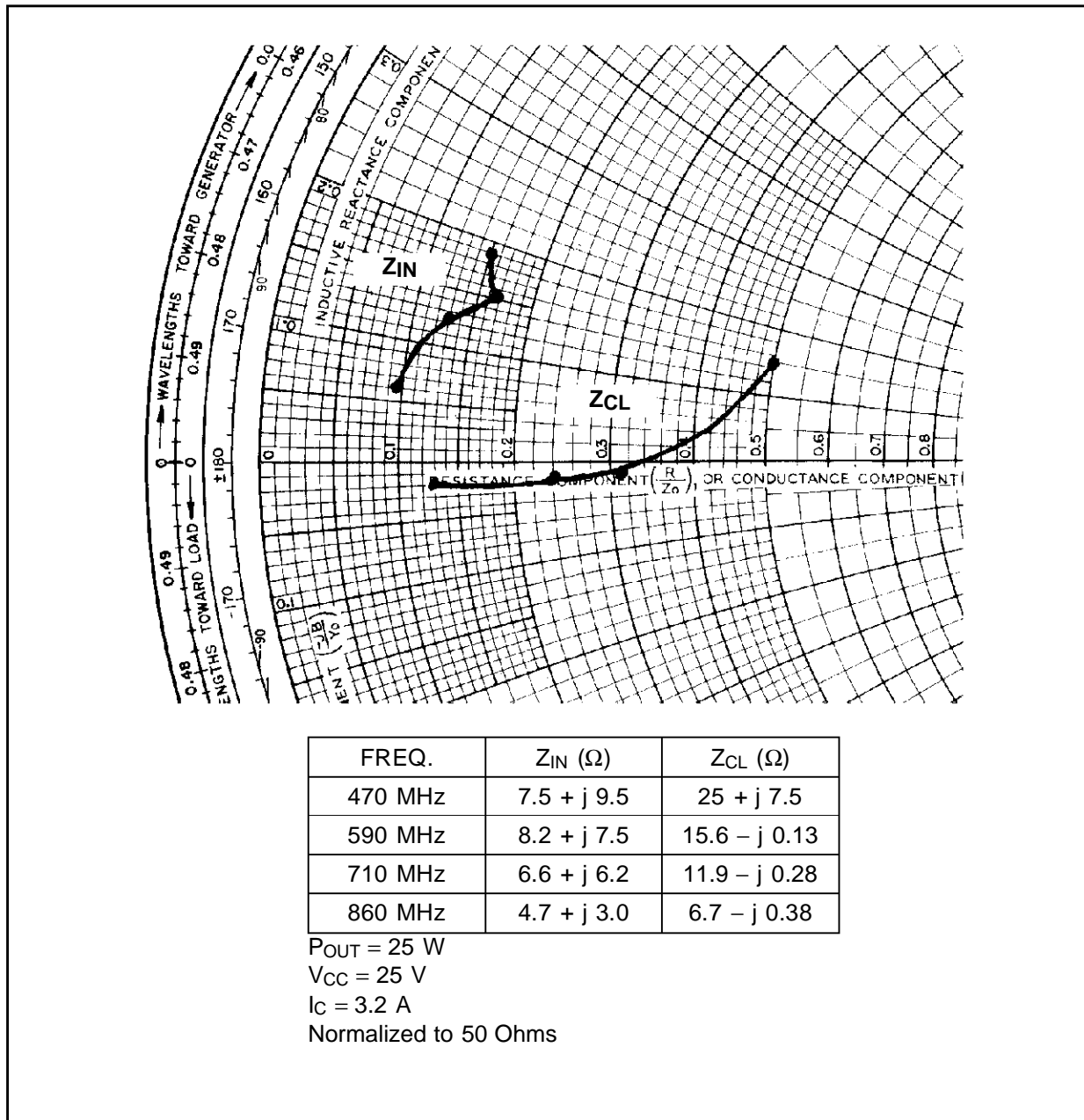
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 860\text{ MHz}$	$V_{\text{CE}} = 25\text{ V}$	$I_{\text{C}} = 3.2\text{ A}$	25	—	—	W
G_{P}	$f = 860\text{ MHz}$	$V_{\text{CE}} = 25\text{ V}$	$I_{\text{C}} = 3.2\text{ A}$	8.0	—	—	dB
CMOD	$f = 860\text{ MHz}$	$V_{\text{CE}} = 25\text{ V}$	$P_{\text{REF}} = 25\text{ W}$	—	—	20	%
IMD_3^*	$f = 860\text{ MHz}$	$V_{\text{CE}} = 25\text{ V}$	$P_{\text{REF}} = 25\text{ W}$	—	—	-45	dB
COB	$f = 1\text{ MHz}$	$V_{\text{CB}} = 28\text{ V}$		—	70	—	pF

Note: * 3 Tone Testing (- 8, - 10, - 16 dB Relative to P_{REF})

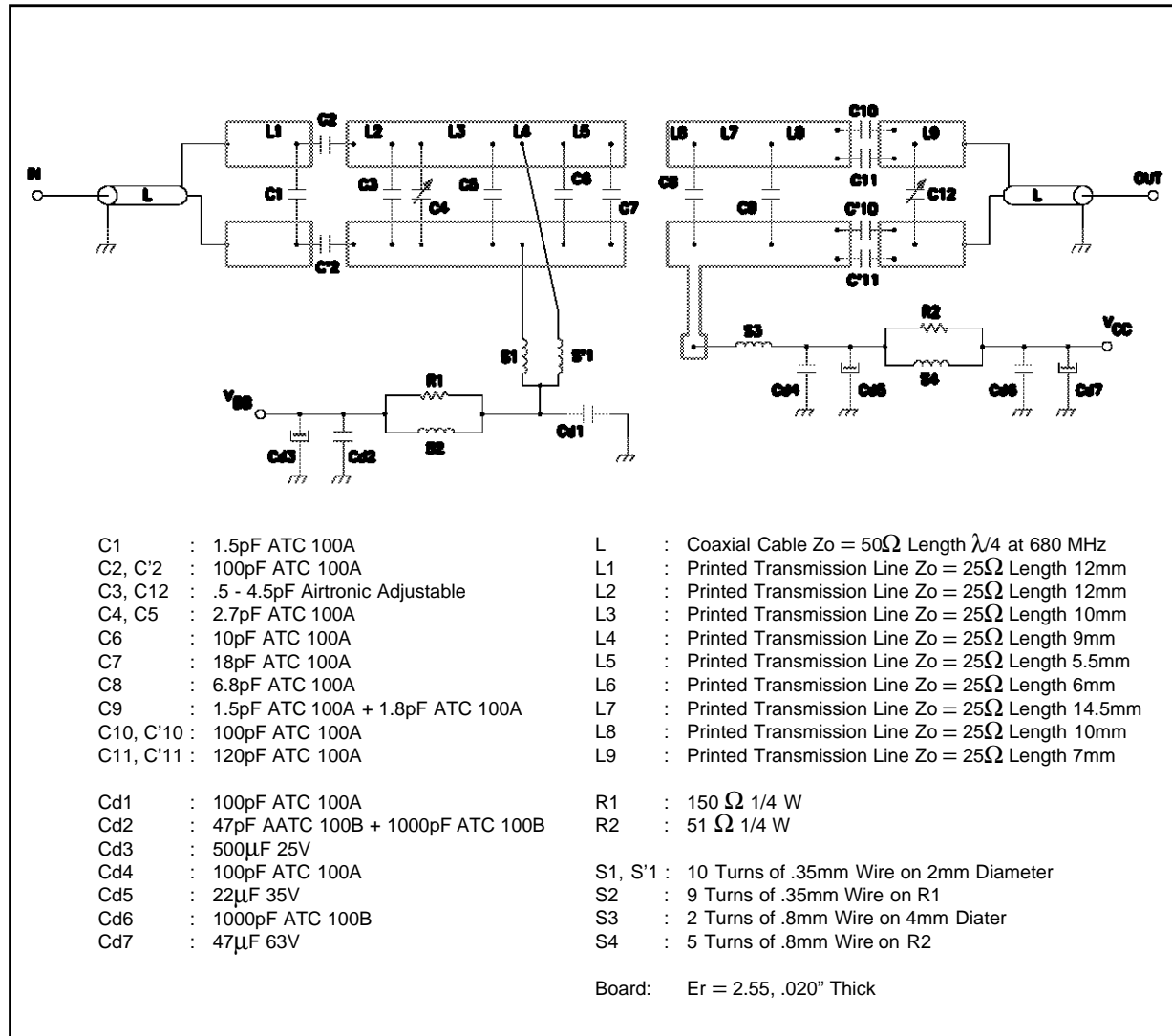
TYPICAL PERFORMANCE



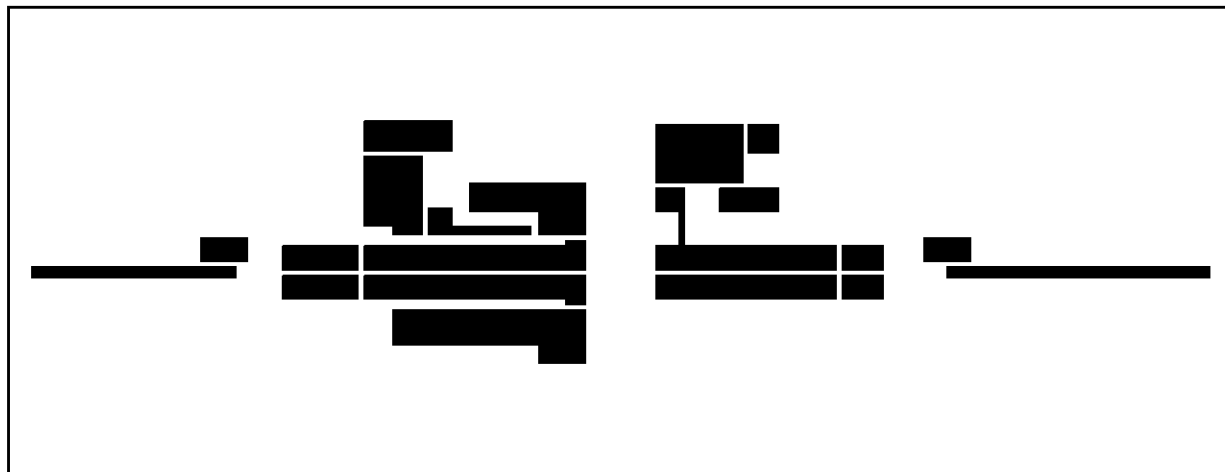
IMPEDANCE DATA



TEST CIRCUIT

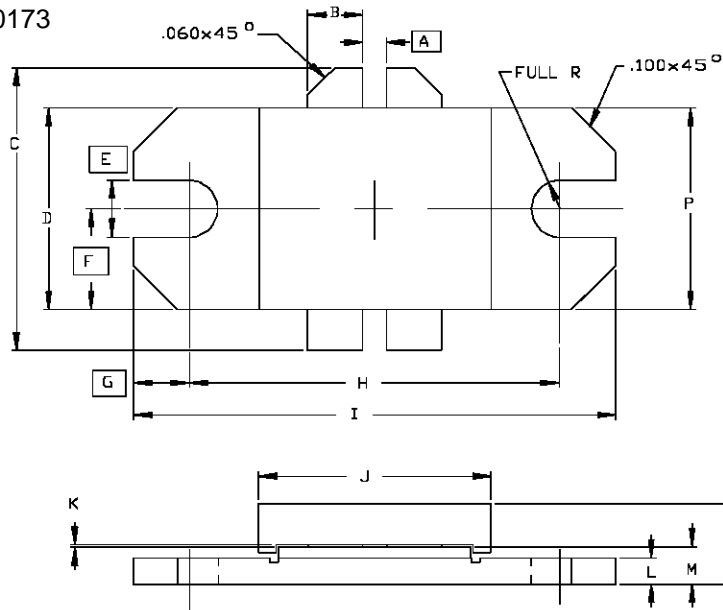


TEST CIRCUIT LAYOUT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0173



SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.055/1,40		K	.002/0,05	.006/0,15
B	.120/3,05	.130/3,30	L	.055/1,40	.065/1,65
C		.785/19,94	M	.080/2,03	.095/2,41
D	.455/11,56	.465/11,81	N		.195/4,95
E	.125/3,18		P	.455/11,56	.465/11,81
F	.230/5,84				
G	.128/3,25				
H	.838/21,28	.850/21,59			
I	1.095/27,81	1.105/28,07			
J	.525/13,34	.535/13,59			

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 results 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