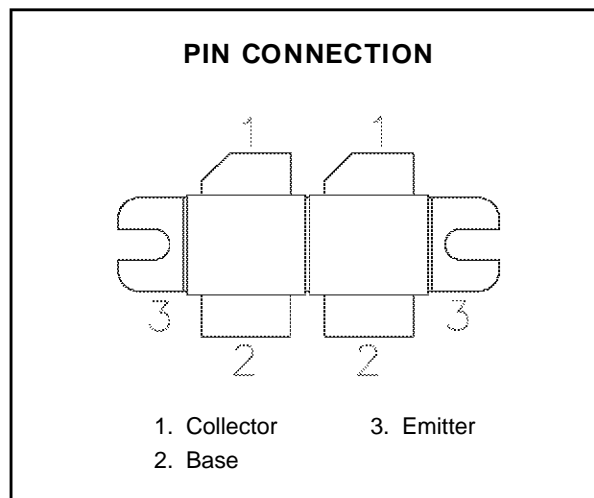
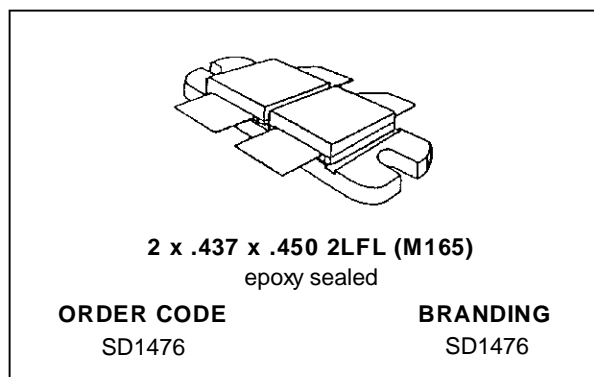


**RF & MICROWAVE TRANSISTORS
TV/LINEAR APPLICATIONS**

- 55 - 88 MHz
- 32 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- INTERNAL INPUT MATCHING
- CLASS AB PUSH PULL
- HIGH SATURATED POWER CAPABILITY
- DIFFUSED EMITTER BALLAST RESISTORS
- DESIGNED FOR HIGH POWER LINEAR OPERATION
- $P_{OUT} = 240 \text{ W MIN. WITH } 12.0 \text{ dB GAIN}$


DESCRIPTION

The SD1476 is a gold metallized epitaxial silicon NPN planar transistor using diffused emitter ballast resistors for high linearity Class AB operation in VHF and Band I television transmitters and transposers.

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	70	V
V_{CEO}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	25	A
P_{DISS}	Power Dissipation	430	W
T_J	Junction Temperature	+200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 50 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	0.4	$^{\circ}\text{C/W}$
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SD1476**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_{CER}	$I_C = 50mA$	$R_{BE} = 51\Omega$	68	—	—	V
BV_{CEO}	$I_C = 100mA$	$I_B = 0mA$	40	—	—	V
BV_{EBO}	$I_E = 20mA$	$I_C = 0mA$	4.0	—	—	V
I_{CEO}	$V_{CE} = 30V$	$I_E = 0mA$	—	—	10	mA
I_{CBO}	$V_{CB} = 30V$	$I_E = 0mA$	—	—	10	mA
h_{FE}	$V_{CE} = 5V$	$I_C = 7A$	10	—	50	—

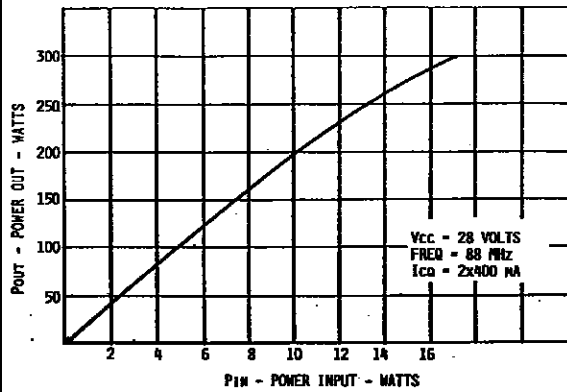
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}^*	$f = 88\text{ MHz}$	$V_{CE} = 32\text{ V}$	$I_{CQ} = 2 \times 400mA$	240	—	—	W
G_P	$f = 88\text{ MHz}$	$V_{CE} = 32\text{ V}$	$I_{CQ} = 2 \times 400mA$	12	—	—	dB
η_C	$f = 88\text{ MHz}$	$V_{CE} = 32\text{ V}$	$I_{CQ} = 2 \times 400mA$	50	—	—	%
C_{OB}	$f = 1\text{ MHz}$	$V_{CB} = 28\text{ V}$		—	—	220	pF

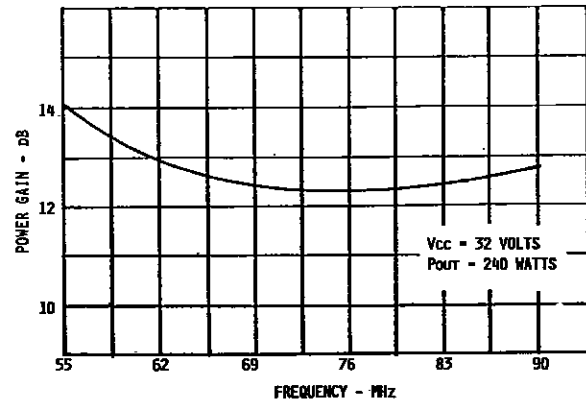
Note: *1 dB Compression

TYPICAL PERFORMANCE

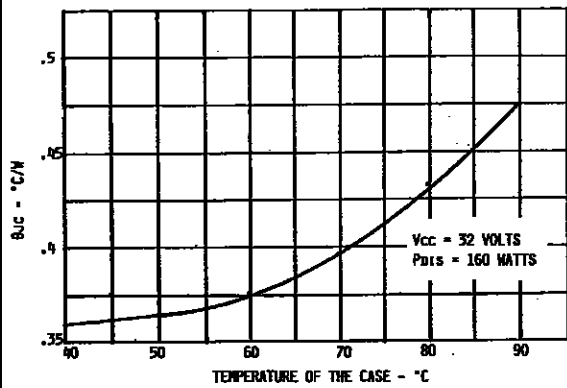
POWER OUTPUT vs POWER INPUT



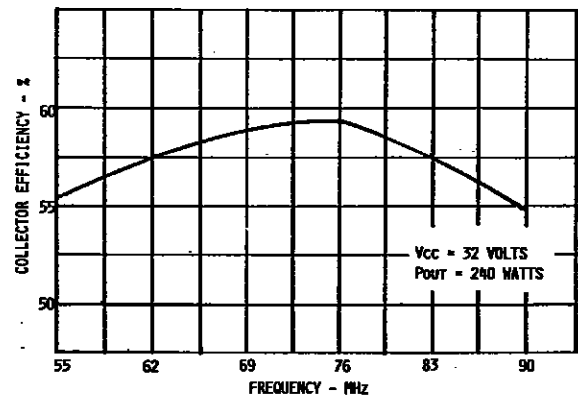
POWER GAIN vs FREQUENCY



THERMAL RESISTANCE vs CASE TEMPERATURE

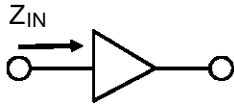


COLLECTOR EFFICIENCY vs FREQUENCY

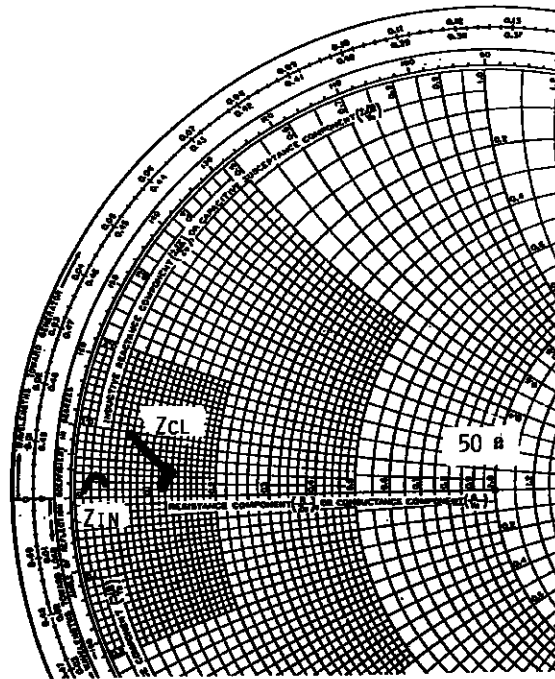
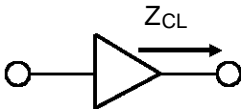


IMPEDANCE DATA

TYPICAL INPUT
IMPEDANCE



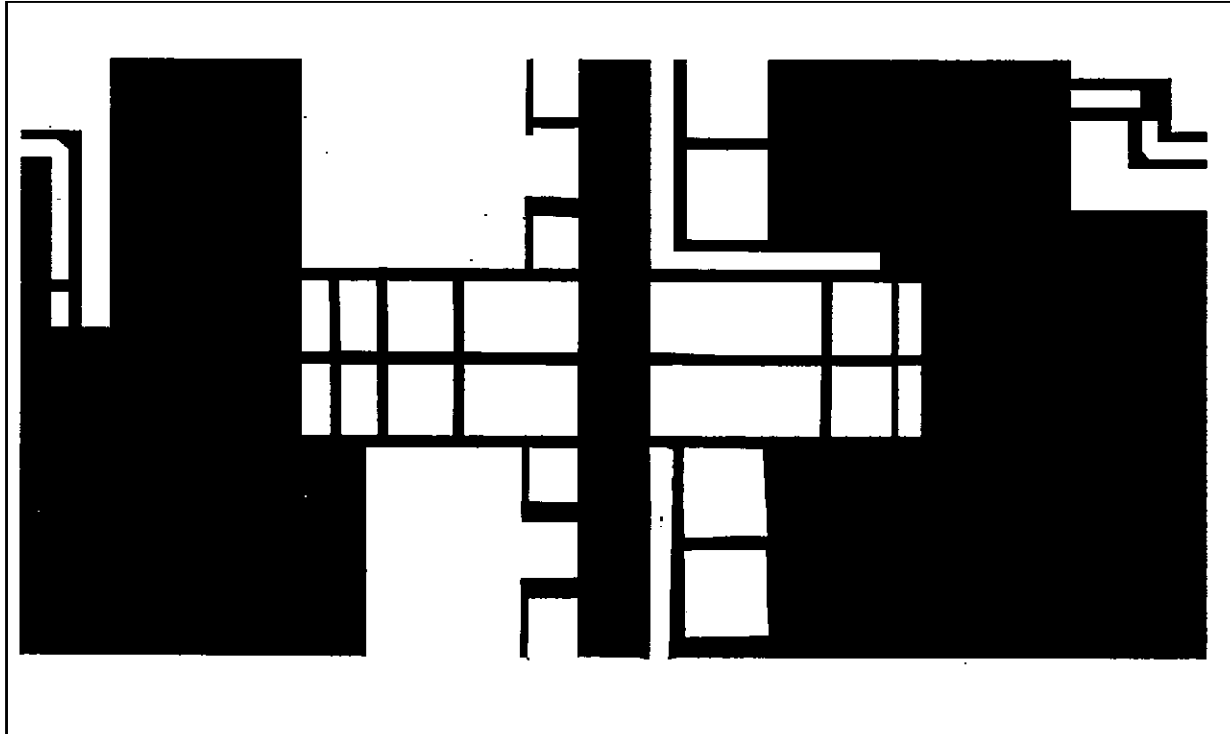
TYPICAL COLLECTOR
LOAD IMPEDANCE



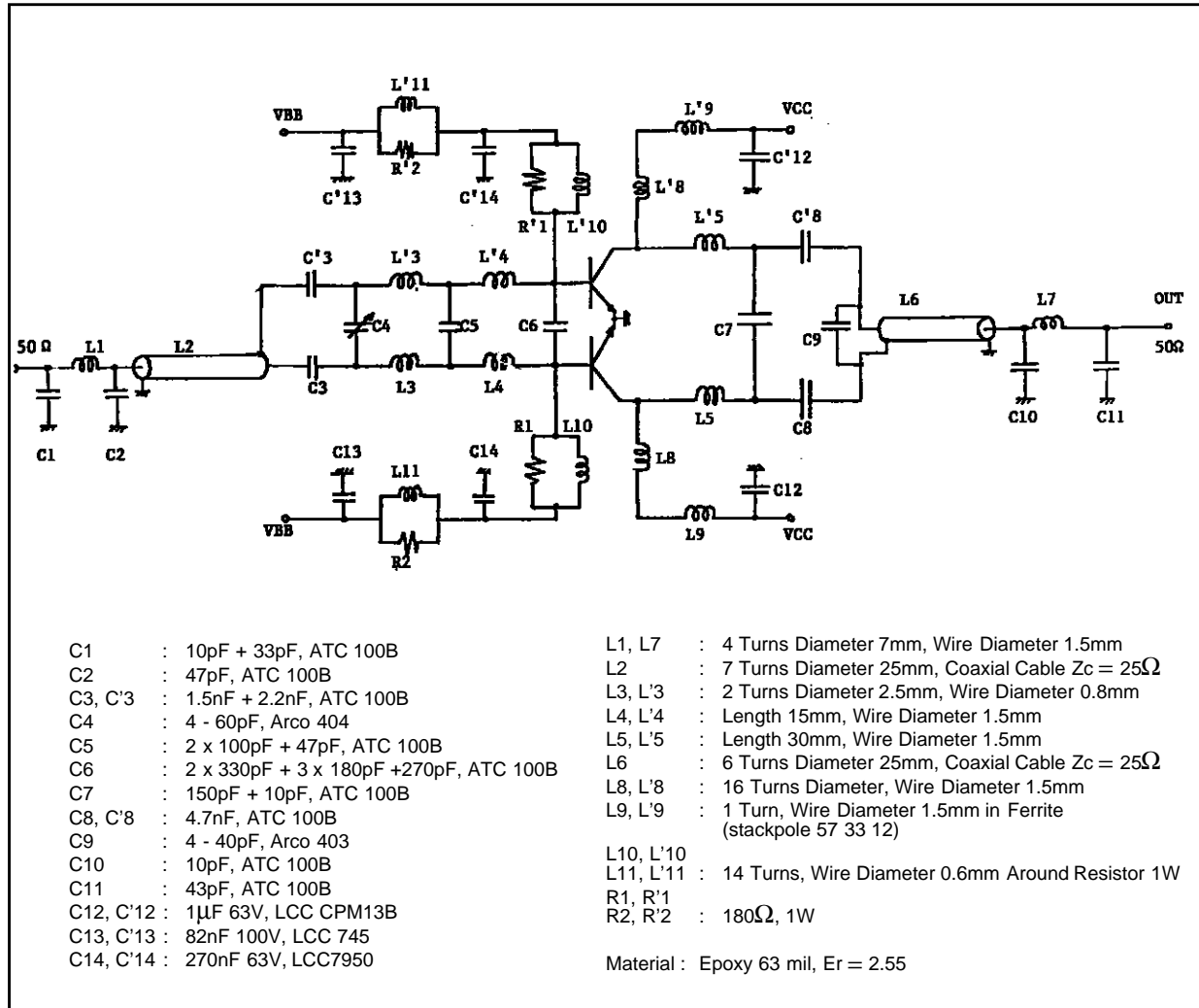
FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
55 MHz	1.7 + j 1.0	6.1 + j 1.0
65 MHz	1.5 + j 1.3	7.0 + j 2.1
75 MHz	1.0 + j 1.1	6.2 + j 2.0
90 MHz	0.8 + j 0.4	3.4 + j 4.4

P_{OUT} = 240 W
V_{CC} = 32 V

PRINTED CIRCUIT BOARD LAYOUT

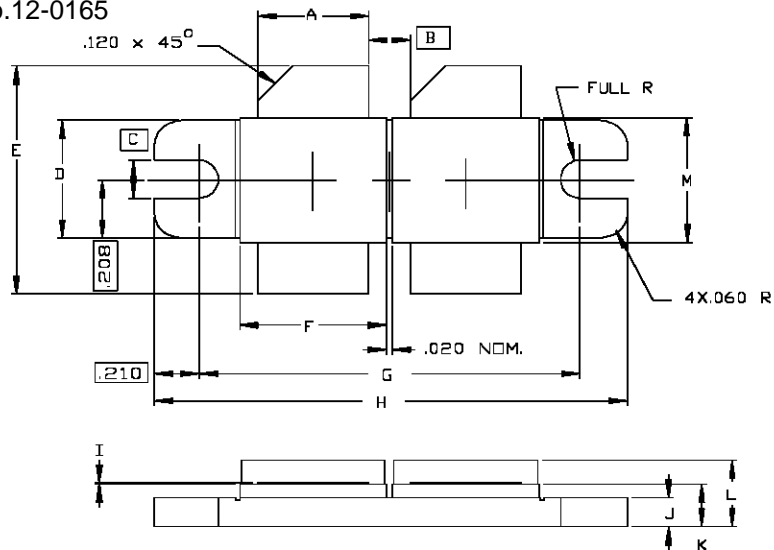


TEST CIRCUIT



PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0165



SGS-THOMSON MICROELECTRONICS		CONT'D			
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.373/9,47	.385/9,78	K	.135/3,43	.155/3,94
B	.122/3,10		L		.250/6,35
C	.125/3,18		M	.425/10,80	.435/11,05
D	.411/10,44	.421/10,69			
E	.825/20,96	.865/21,97			
F	.495/12,57	.505/12,83			
G	1.255/31,88	1.265/32,13			
H	1.675/42,55	1.685/42,80			
I	.002/0,05	.006/0,15			
J	.095/2,41	.105/2,67			

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