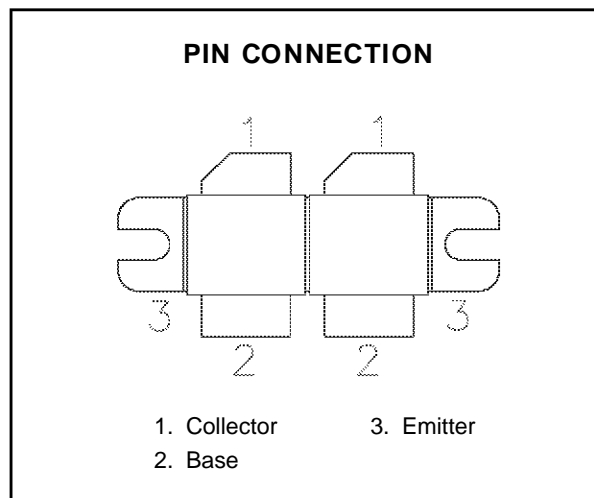
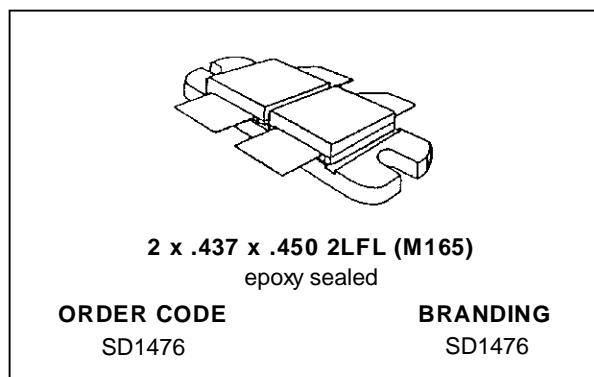


**RF & MICROWAVE TRANSISTORS
TV/LINEAR APPLICATIONS**

- 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	—

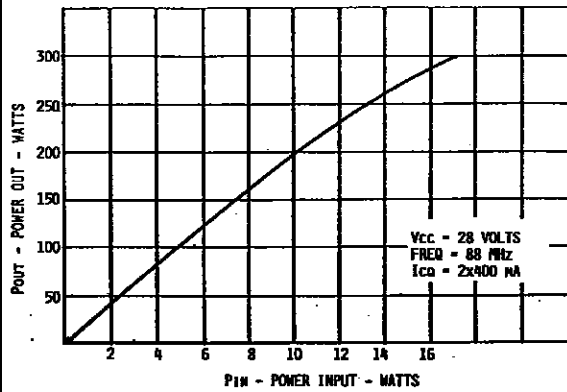
DYNAMIC

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

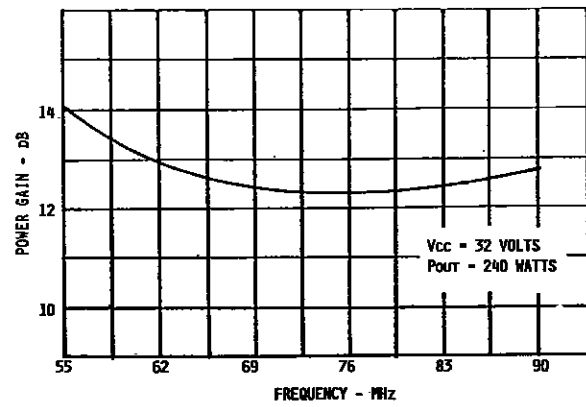
Note: *1 dB Compression

TYPICAL PERFORMANCE

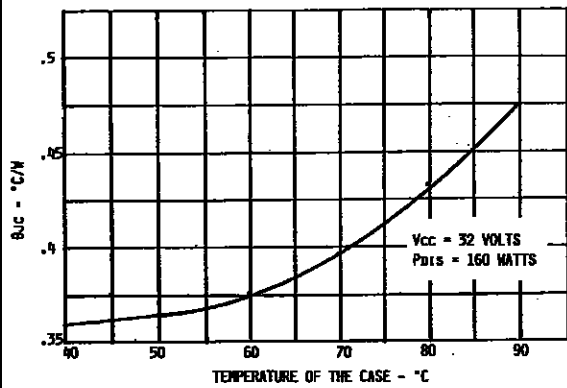
POWER OUTPUT vs POWER INPUT



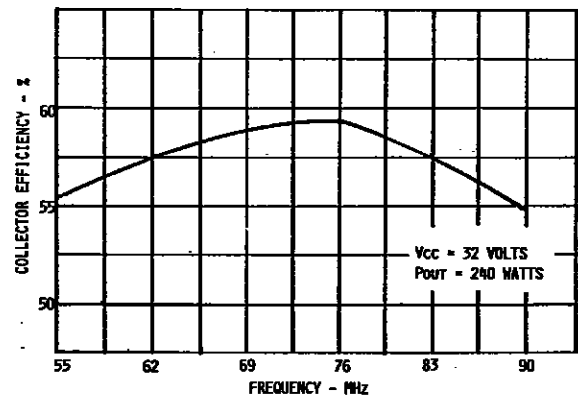
POWER GAIN vs FREQUENCY



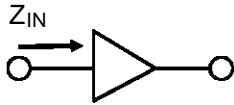
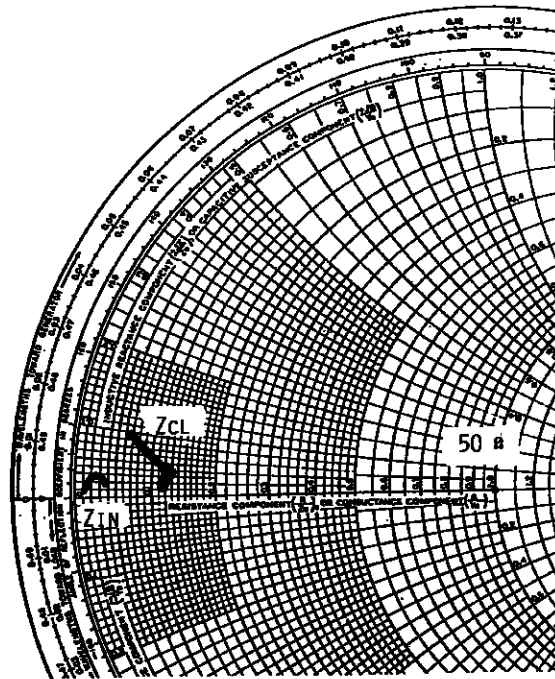
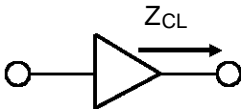
THERMAL RESISTANCE vs CASE TEMPERATURE



COLLECTOR EFFICIENCY vs FREQUENCY



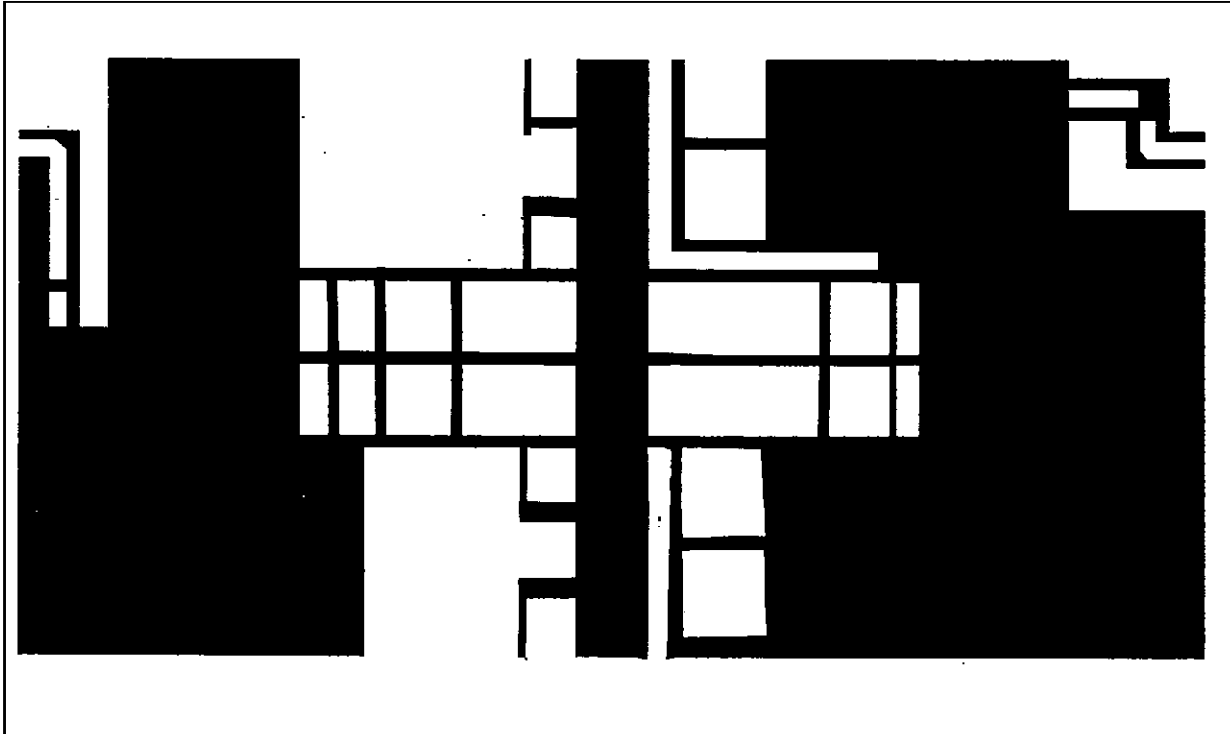
IMPEDANCE DATA

TYPICAL INPUT
IMPEDANCETYPICAL COLLECTOR
LOAD IMPEDANCE

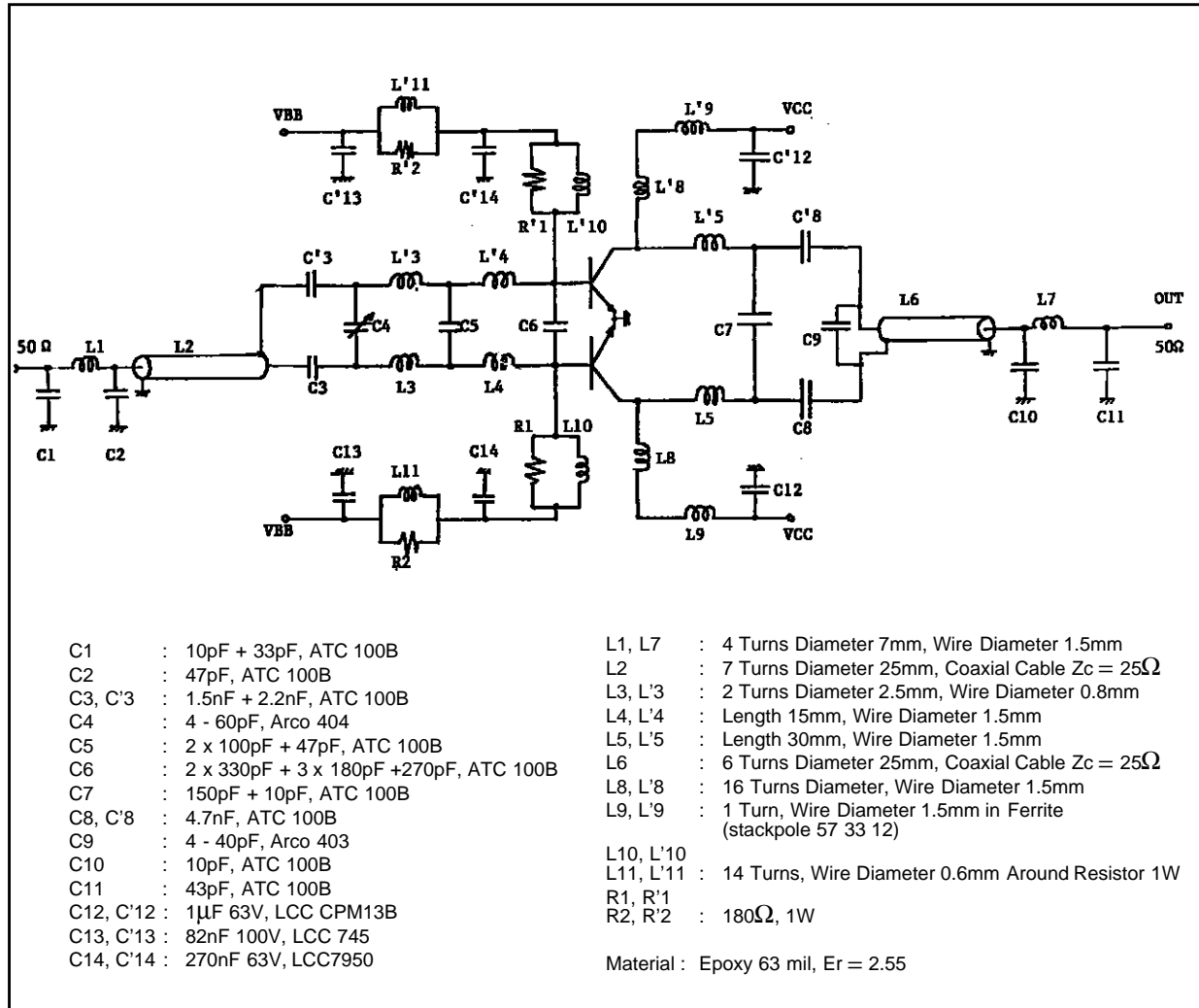
FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
55 MHz	$1.7 + j 1.0$	$6.1 + j 1.0$
65 MHz	$1.5 + j 1.3$	$7.0 + j 2.1$
75 MHz	$1.0 + j 1.1$	$6.2 + j 2.0$
90 MHz	$0.8 + j 0.4$	$3.4 + j 4.4$

$P_{OUT} = 240 \text{ W}$
 $V_{CC} = 32 \text{ V}$

PRINTED CIRCUIT BOARD LAYOUT

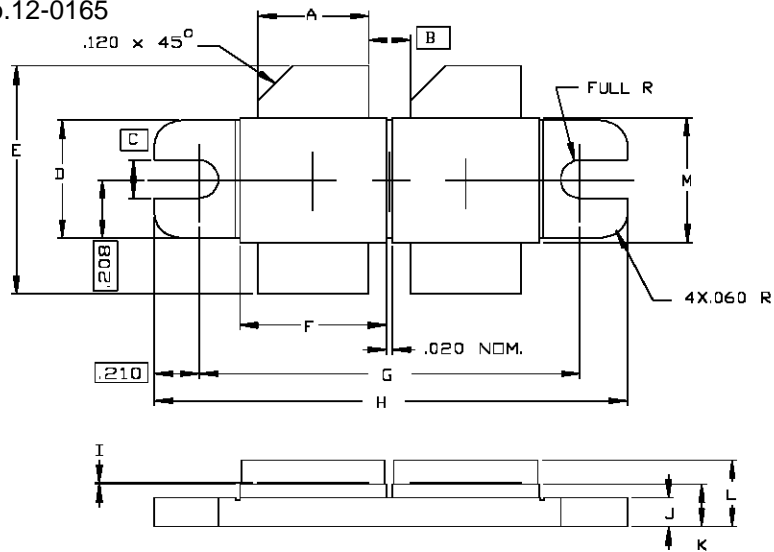


TEST CIRCUIT



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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