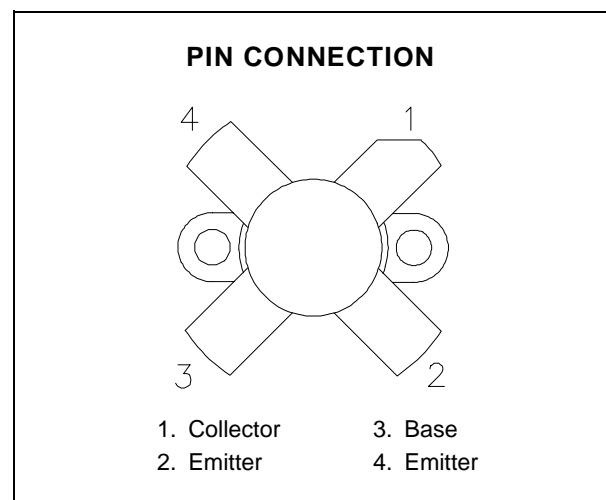
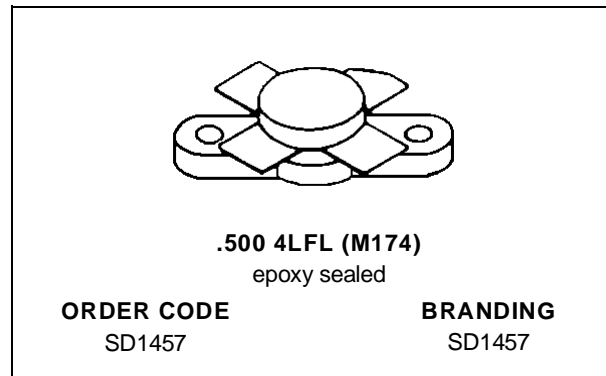


**RF & MICROWAVE TRANSISTORS
FM BROADCAST APPLICATIONS**

- 108 MHz
- 28 VOLTS
- EFFICIENCY 75%
- COMMON EMITTER
- GOLD METALLIZATION
- P_{OUT} = 75 W MIN. WITH 10.0 dB GAIN


DESCRIPTION

The SD1457 is a 28 V gold metallized epitaxial silicon NPN planar transistor designed for FM VHF broadcast transmitters.

This device utilizes diffused emitter resistors to achieve infinite VSWR at rated operating conditions.

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

Symbol	Parameter	Value	Unit
V _{CB0}	Collector-Base Voltage	65	V
V _{CEO}	Collector-Emitter Voltage	30	V
V _{CES}	Collector-Emitter Voltage	60	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	10	A
P _{DISS}	Power Dissipation	100	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	1.5	°C/W
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SD1457

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

STATIC

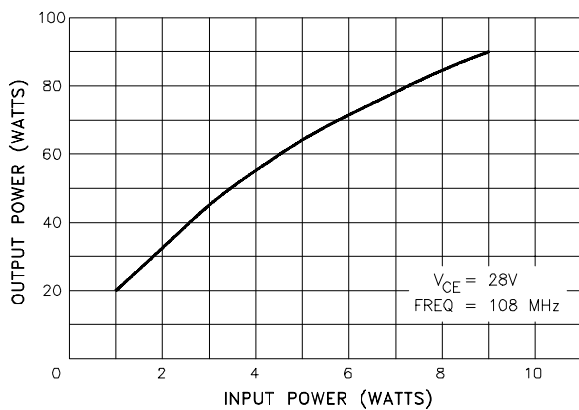
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 50mA	I _E = 0mA	65	—	—	V
BV _{CER}	I _C = 50mA	R _{BE} = 10Ω	60	—	—	V
BV _{CEO}	I _C = 50mA	I _B = 0mA	30	—	—	V
BV _{EBO}	I _E = 10mA	I _C = 0mA	4.0	—	—	V
h _{FE}	V _{CE} = 5V	I _C = 1A	20	—	150	—

DYNAMIC

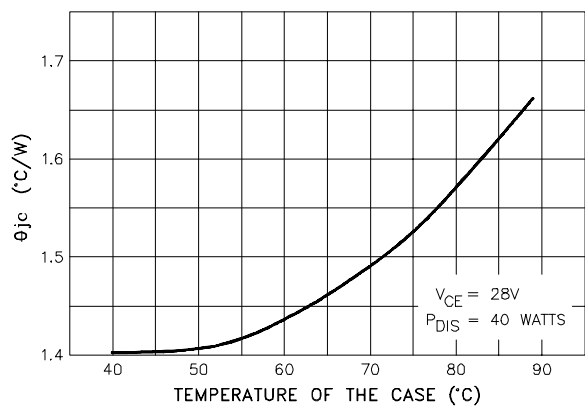
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 108 MHz	P _{IN} = 7.5 W	V _{CE} = 28 V	75	—	—	W
G _P	f = 108 MHz	P _{IN} = 7.5 W	V _{CE} = 28 V	10	—	—	dB
η _C	f = 108 MHz	P _{IN} = 7.5 W	V _{CE} = 28 V	70	—	—	%
C _{OB}	f = 1 MHz	V _{CB} = 30 V		—	—	85	pF

TYPICAL PERFORMANCE

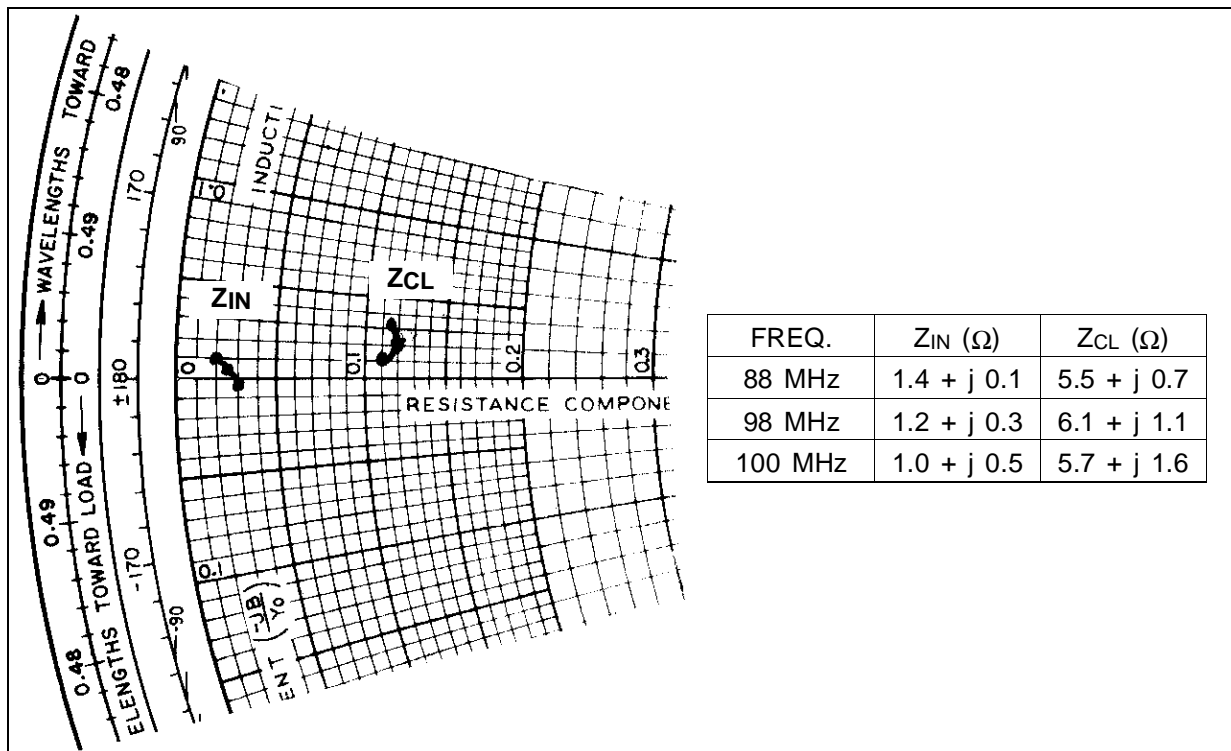
POWER OUTPUT vs POWER INPUT



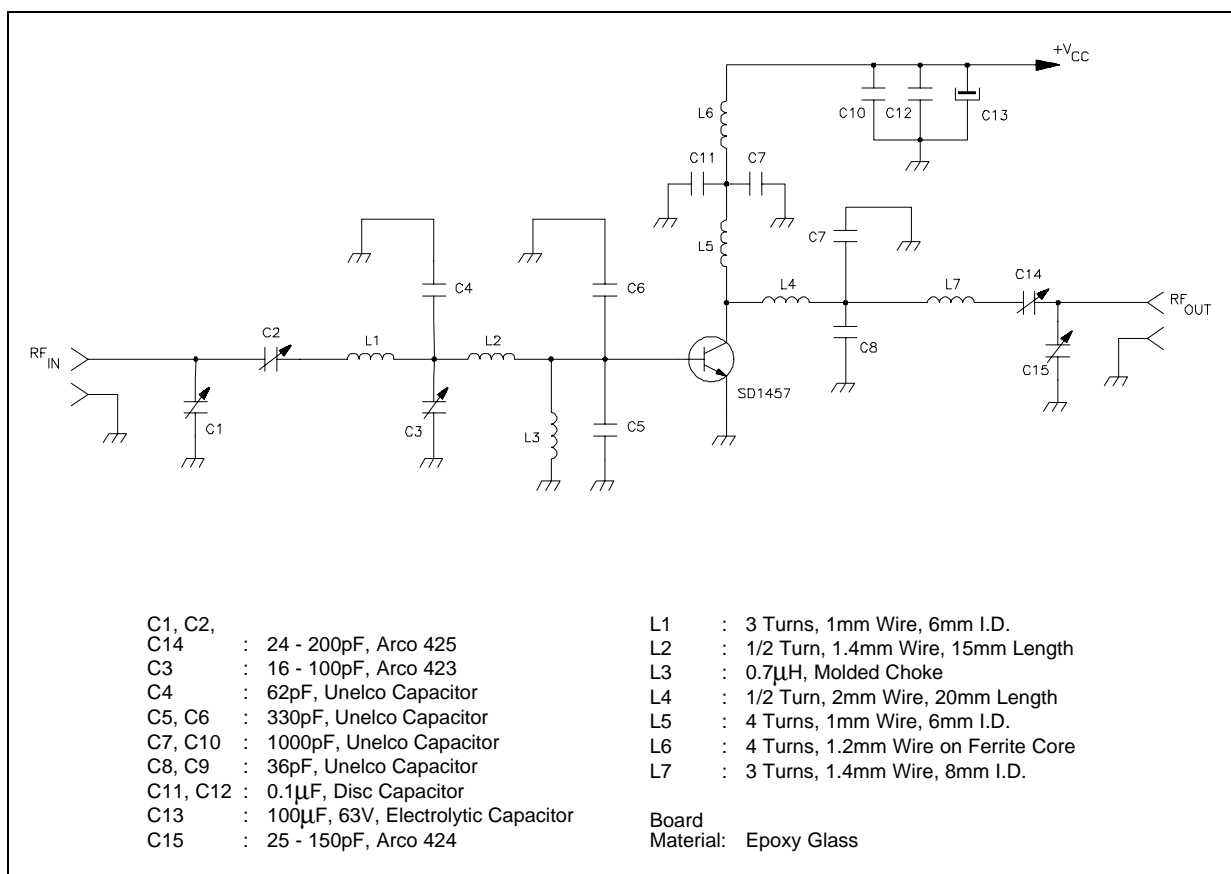
THERMAL RESISTANCE vs CASE TEMPERATURE



IMPEDANCE DATA

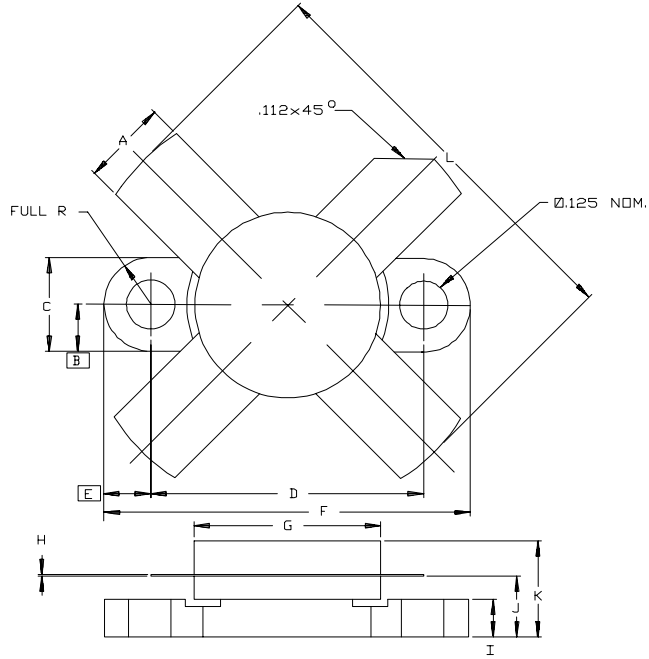


TEST CIRCUIT



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			

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