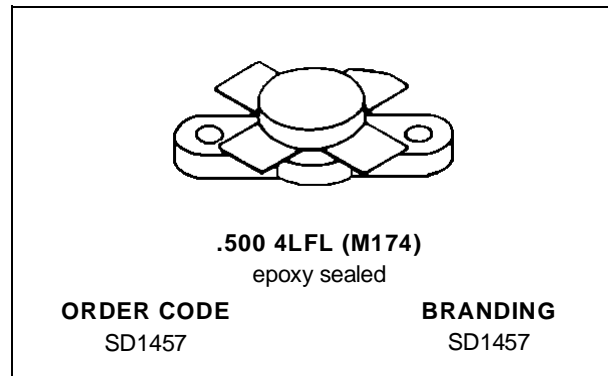


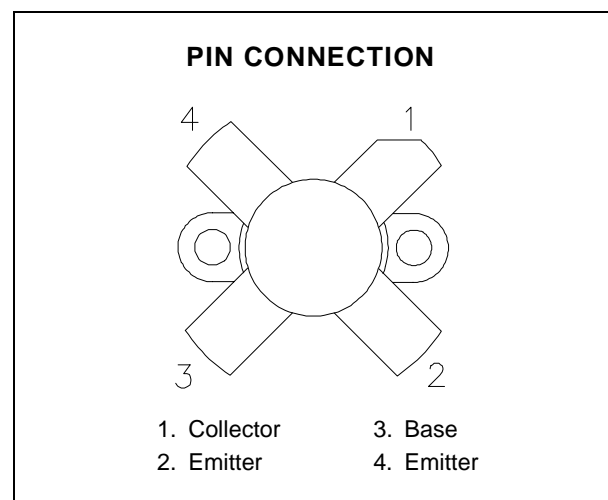
**RF & MICROWAVE TRANSISTORS
FM BROADCAST APPLICATIONS**

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


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

Symbol	Parameter	Value	Unit
V_{CBO}	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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.5	$^{\circ}\text{C/W}$
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SD1457

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

STATIC

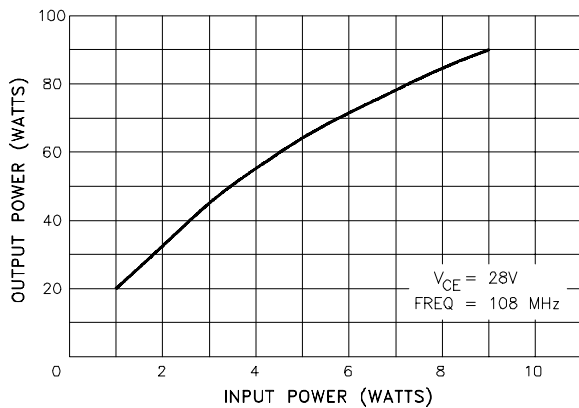
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 50mA	I _E = 0mA	65	—	—	V
BV _{CER}	I _C = 50mA	R _{BE} = 10Ω	60	—	—	V
BV _{CEO}	I _C = 50mA	I _B = 0mA	30	—	—	V
BV _{EBO}	I _E = 10mA	I _C = 0mA	4.0	—	—	V
h _{FE}	V _{CE} = 5V	I _C = 1A	20	—	150	—

DYNAMIC

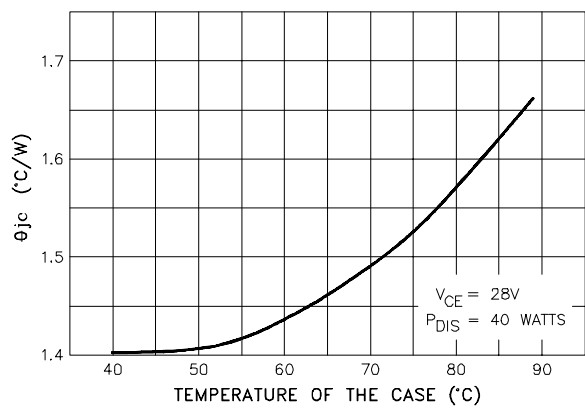
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 108 MHz	P _{IN} = 7.5 W	V _{CE} = 28 V	75	—	—	W
G _P	f = 108 MHz	P _{IN} = 7.5 W	V _{CE} = 28 V	10	—	—	dB
η _C	f = 108 MHz	P _{IN} = 7.5 W	V _{CE} = 28 V	70	—	—	%
C _{OB}	f = 1 MHz	V _{CB} = 30 V		—	—	85	pF

TYPICAL PERFORMANCE

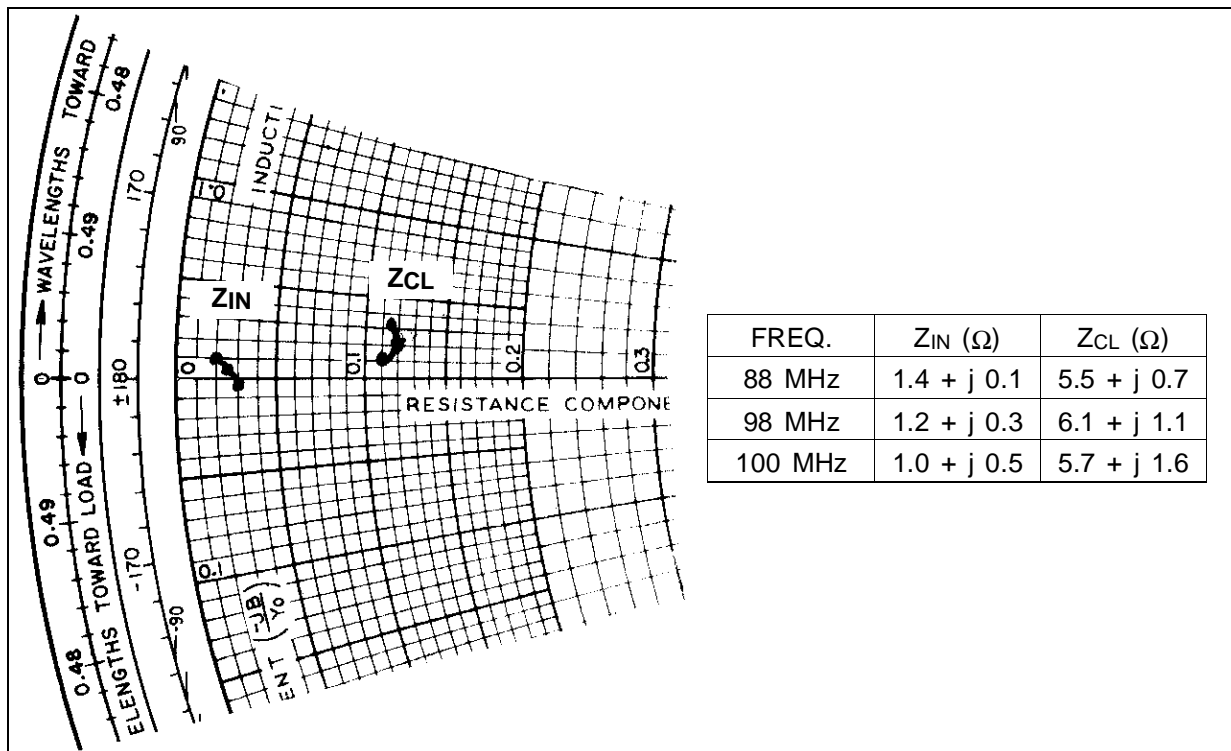
POWER OUTPUT vs POWER INPUT



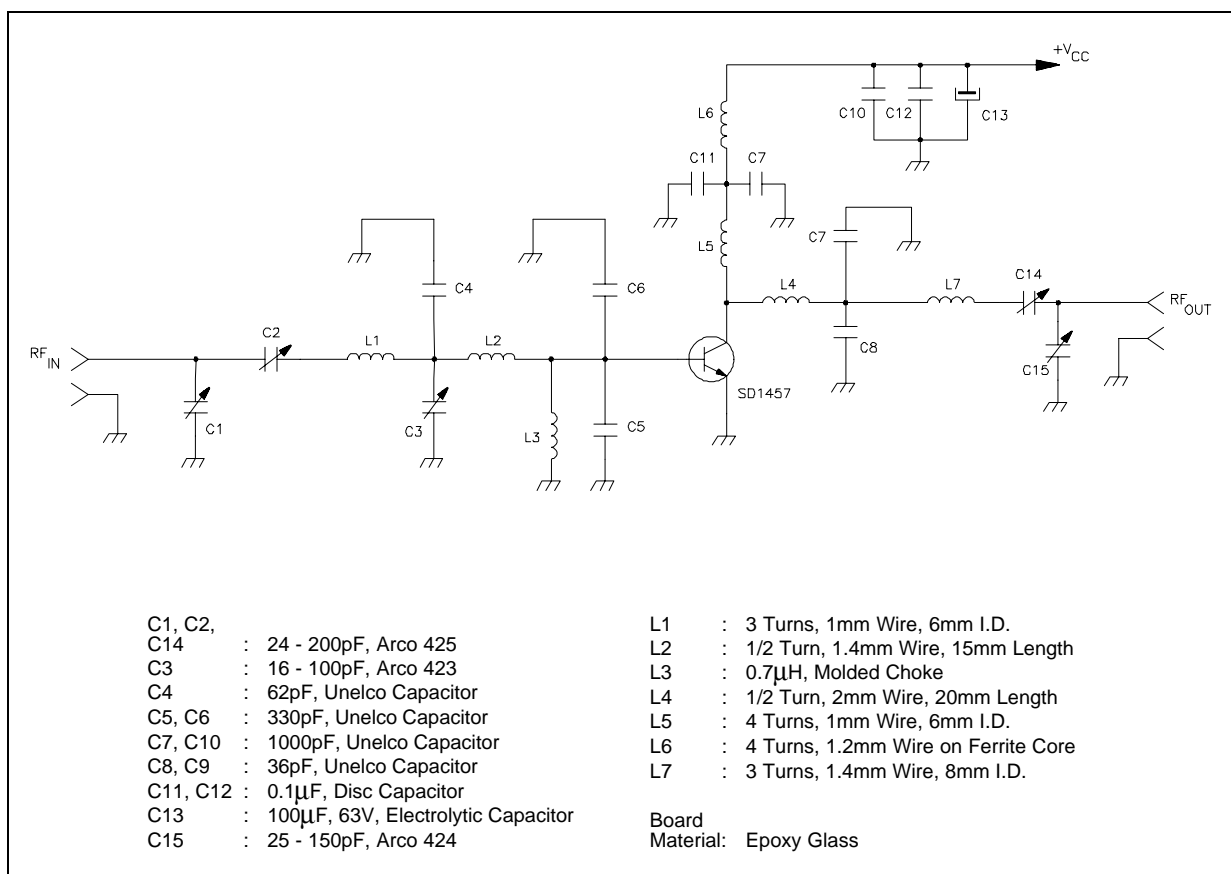
THERMAL RESISTANCE vs CASE TEMPERATURE



IMPEDANCE DATA

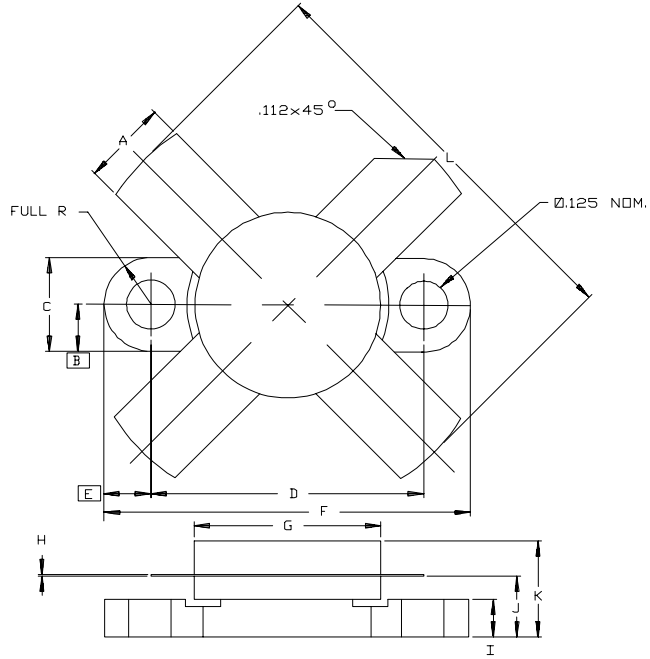


TEST CIRCUIT



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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