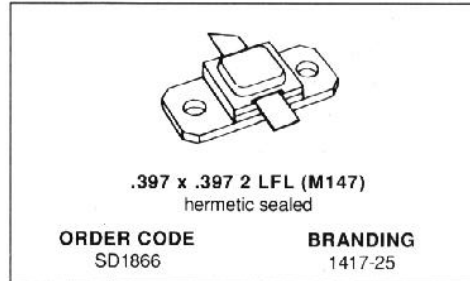


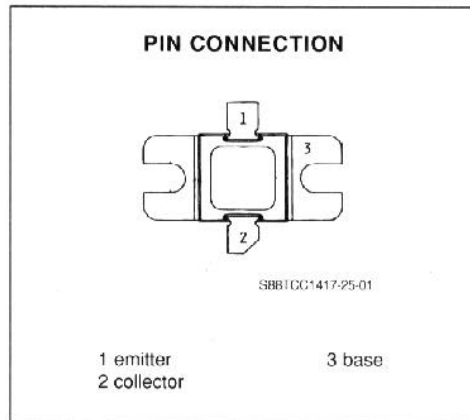
RF & MICROWAVE TRANSISTORS
MICROWAVE TELECOMMUNICATION APPLICATIONS

- FREQUENCY 1.4-1.7GHz
- POWER OUT 25W
- POWER GAIN 8.0dB
- VOLTAGE 24.0V
- HERMETIC PACKAGE
- ALL GOLD METALLIZED SYSTEM
- OVERLAY DIE GEOMETRY
- HIGH RELIABILITY AND RUGGEDNESS
- LOW THERMAL RESISTANCE
- COMMON BASE
- BROADBAND PERFORMANCE



DESCRIPTION

The TCC1417-25 is an internally input and output matched NPN silicon transistor designed for microwave applications. The device utilizes polysilicon site ballasting with gold metallized die to achieve high reliability and ruggedness. The TCC1417-25 is a 24 Volt device designed to provide 25 Watts over the 1.4-1.7GHz band with a minimum gain of 7.5dB.



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

Symbol	Parameter	Value	Unit
V_{CEO}	Collector - Base Voltage	15.0	V
V_{CBO}	Collector - Emitter Voltage	40.0	V
V_{EBO}	Emitter - Base Voltage	3.5	V
I_C	Collector Current (max.)	6.1	A
P_{tot}	Total Device Dissipation at + 25°C	58	W
T_{stg}	Storage Temperature	- 65 to 200	°C
T_j	Junction Temperature	200	°C

THERMAL DATA

$R_{th(j-c)}$	Junction-case Thermal Resistance	3.0	°C/W
---------------	----------------------------------	-----	------

TCC1417-25**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)

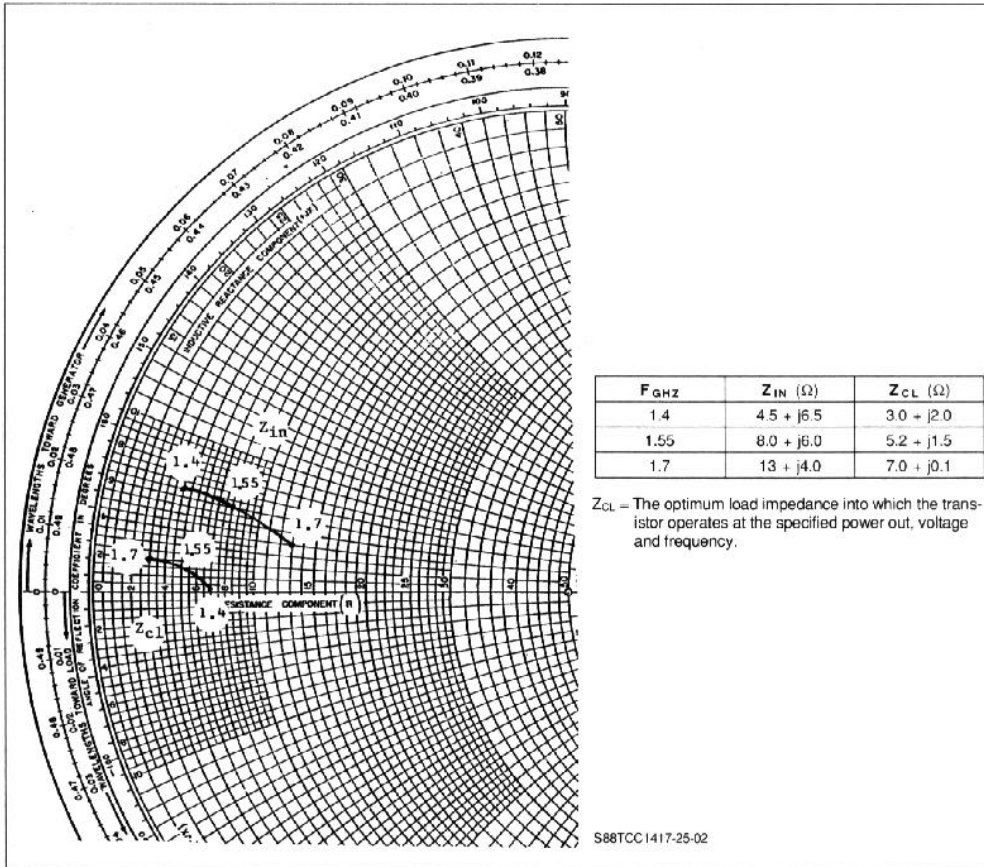
STATIC

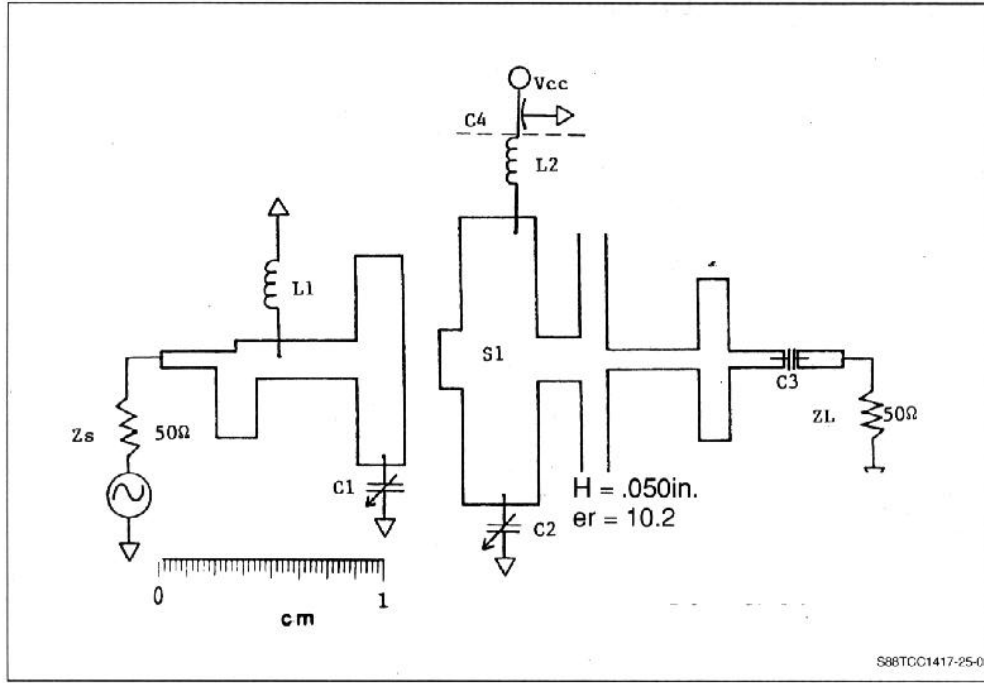
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CE0}	$I_C = 10\text{mA}$	$I_B = 0$	15			V
BV_{CBO}	$I_C = 10\text{mA}$	$V_{BE} = 0$	40			V
BV_{EBO}	$I_E = 10\text{mA}$	$I_C =$	3.5			V
I_{CBO}	$V_{CB} = 24\text{V}$	$V_{BE} =$			0.5	mA
h_{FE}	$V_{CE} = 5\text{V}$	$I_C = .5\text{A}$	15		150	

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_O	$f = 1.4 - 1.7\text{GHz}$	$V_{CB} = 24\text{V}$	$P_{IN} = 4.4\text{W}$	25			W
P_G	$f = 1.4 - 1.7\text{GHz}$	$V_{CB} = 24\text{V}$	$P_{IN} = 4.4\text{W}$	8			dB
η_C	$f = 1.4 - 1.7\text{GHz}$	$V_{CB} = 24\text{V}$	$P_{OUT} = 25\text{W}$	40			%

TYPICAL SERIES EQUIVALENT INPUT/OUTPUT IMPEDANCE WORKSHEET



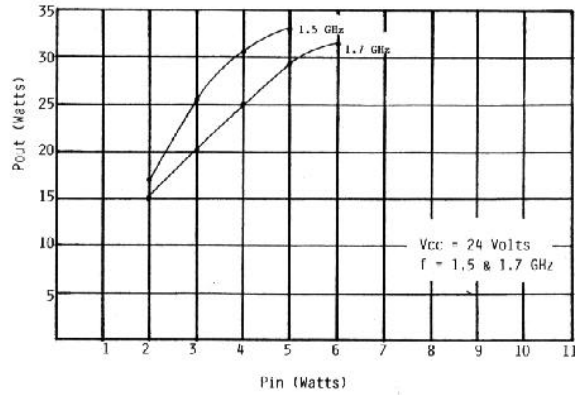


S88TCC1417-25-03

PARTS LIST

ITEM REF.	Description of ITEM
L1	4 Turnchoke # 28 Wire .080" Dia
L2	4 Turnchoke # 28 Wire .080" Dia
C1	.4 - 2.5pF Johanson Capacitor
C2	.4 - 2.5pF Johanson Capacitor
C3	100pF Chip Capacitor ATC
C4	15.000pF Emi Filter
S1	Epsilam 10 er = 10.2 T = .050" loz Cu
	SMA Launcher CDI (2 pieces)
	.397 so Fixture Housing
	Heat Sink

TYPICAL DATA CURVES WORKSHEET



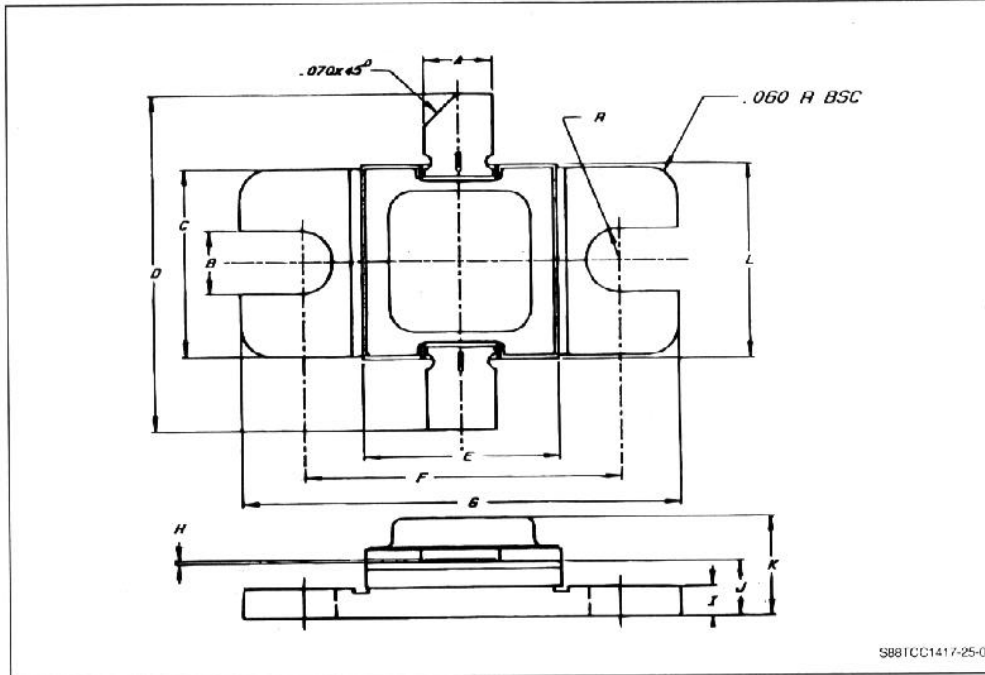
At $V_{CC} = 24V$
 $f = 1.5$ and $1.7GHz$

S88TCC1417 25 04

TCC1417-25

PACKAGE MECHANICAL DATA

.397 x .397 2LFL



S88TCC1417-25-05

	Minimum Inches/mm	Maximum Inches/mm
A	.135/3.43	.145/3.68
B	.125/3.18 BSC	
C	.380/9.65	.390/9.91
D	.885/22.48	
E	.392/9.96	.402/10.29
F	.645/16.38	.655/16.64

	Minimum Inches/mm	Maximum Inches/mm
G	.895/22.73	.905/22.99
H	.002/0.05	.006/0.15
I	.055/1.40	.065/1.65
J	.105/2.67	.125/3.18
K		.230/5.84
L	.392/9.96	.402/10.29