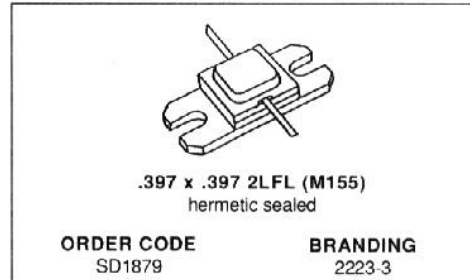


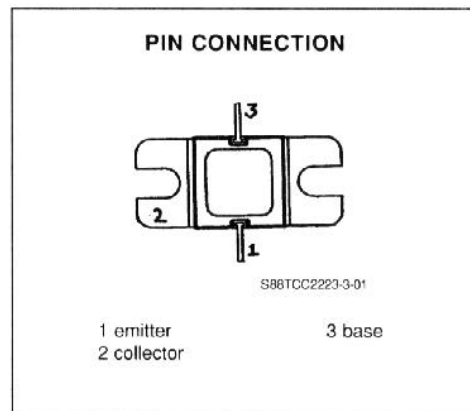
RF & MICROWAVE TRANSISTORS
MICROWAVE TELECOMMUNICATION APPLICATIONS

- FREQUENCY 2.2-2.3GHz
- POWER OUT 3.0W
- POWER GAIN 8.5dB
- 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 TCC2223-3 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 TCC2223-3 is a 24V device designed to provide 2.8W over the 2.2-2.3GHz with a minimum gain of 8.5dB.



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

Symbol	Parameter	Value	Unit
V_{CEO}	Collector - Base Voltage	15	V
V_{CBO}	Collector - Emitter Voltage	45	V
V_{EBO}	Emitter - Base Voltage	3.5	V
I_C	Collector Current (max.)	0.7	A
P_{tot}	Total Device Dissipation at + 25°C	11.7	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	15	°C/W
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TCC2223-3**ELECTRICAL CHARACTERISTICS** ($T_{case} = 25^{\circ}C$)

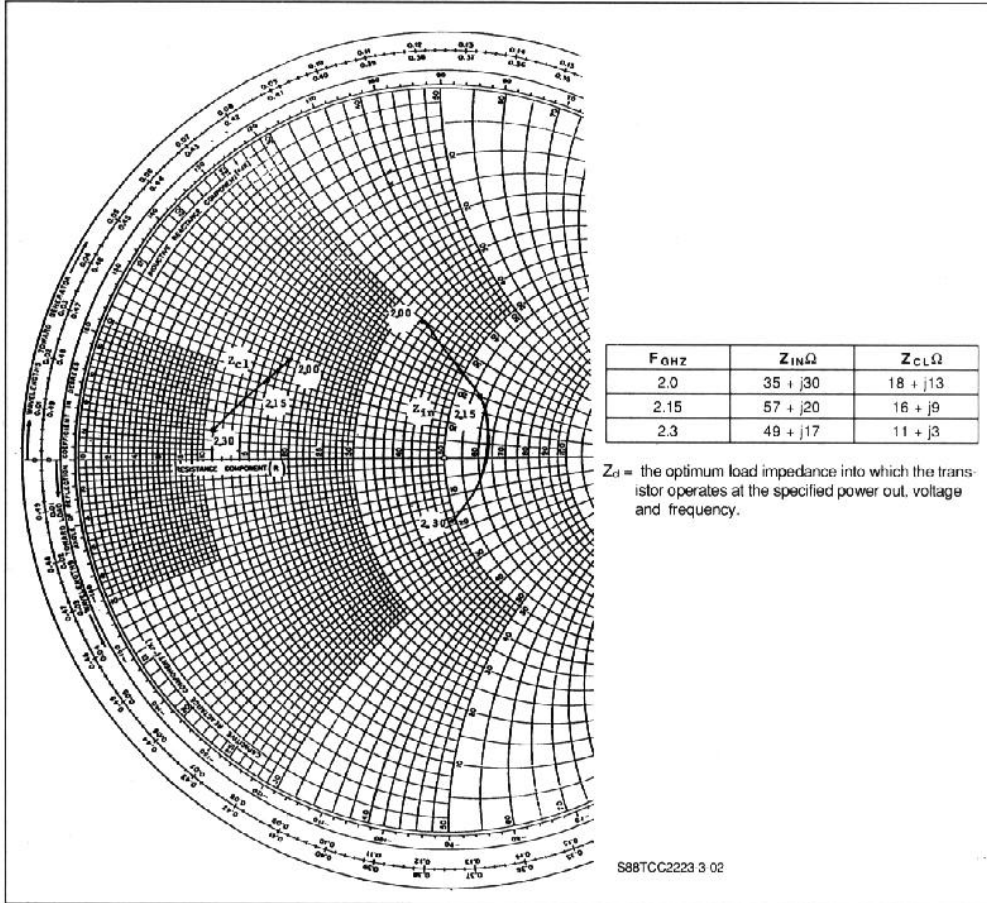
STATIC

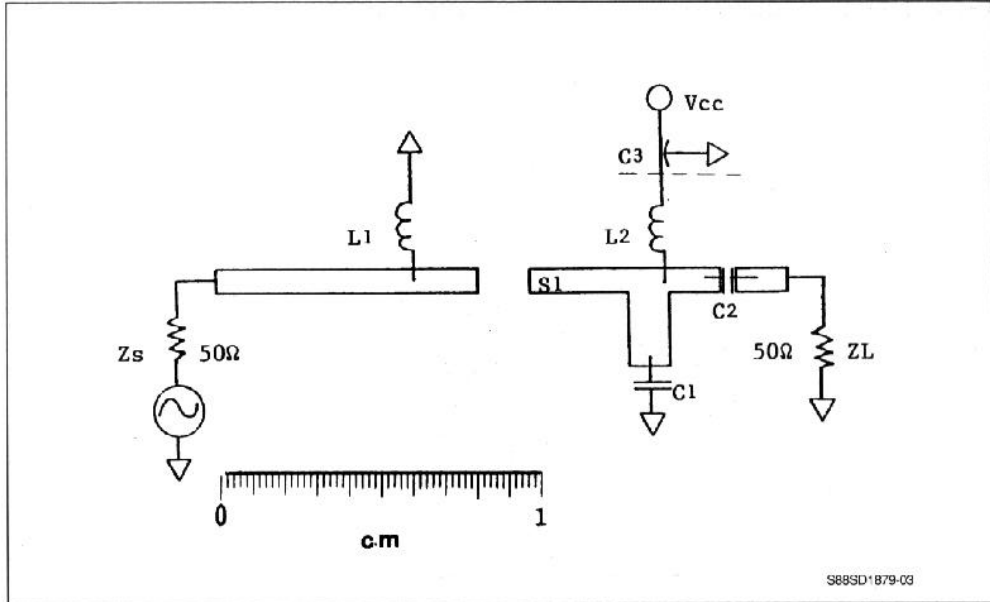
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CEO}	$I_C = 1mA$	$I_B = 0$	15			V
BV_{CBO}	$I_C = 1mA$	$V_{BE} = 0$	45			V
BV_{EBO}	$I_E = 1mA$	$I_C = 0$	3.5			V
I_{CBO}	$V_{CB} = 24V$	$V_{BE} = 0$.05	mA
h_{FE}	$V_{CE} = 5V$	$I_C = .1A$	15		150	

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_D	$f = 2.2-2.3GHz$	$V_{CB} = 24V$	$P_{IN} = .4W$	2.8			W
P_G	$f = 2.2-2.3GHz$	$V_{CB} = 24V$	$P_{IN} = .4W$	8.5			dB
η_c	$f = 2.2-2.3GHz$	$V_{CB} = 24V$	$P_{OUT} = 2.8W$	40			%

TYPICAL SERIES EQUIVALENT INPUT/OUTPUT IMPEDANCE



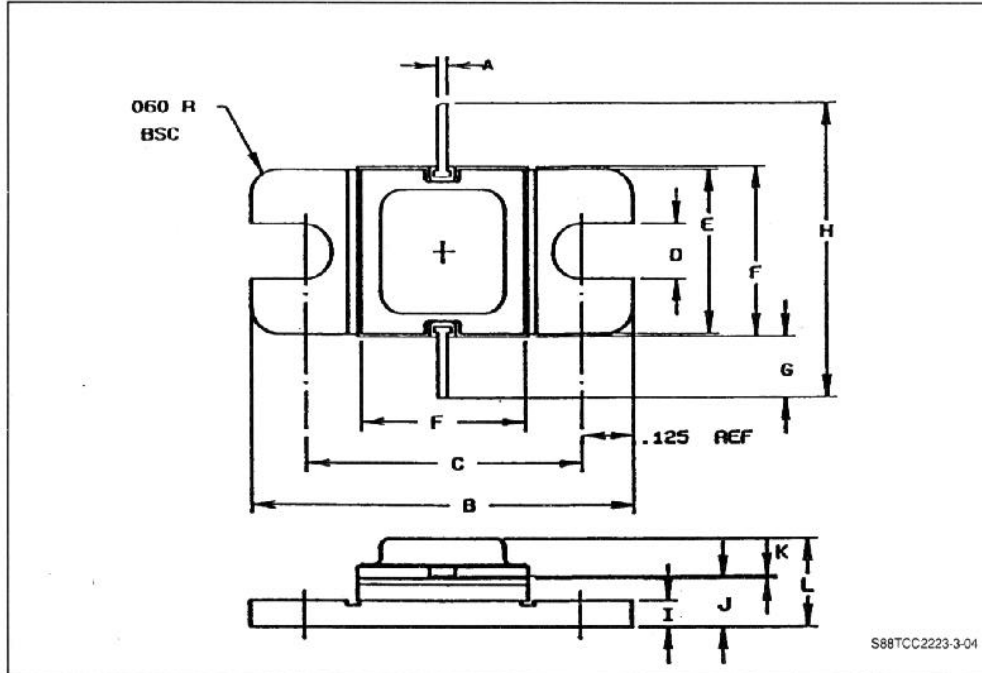


PARTS LIST

ITEM REF.	Description of ITEM
L1	3 Turn Choke #28 Wire .080" Dia.
L2	3 Turn Choke #28 Wire .080" Dia.
C1	.4-2.5pF Johanson Cap.
C2	100pF Chip Cap.
C3	15.000pF EMI Filter Murata/erie
S1	Epsilon 10 $\epsilon_r = 10.2$ T = .050" 10z cu
	SMA Launcher CDI (2 pieces)
	.397 so Fixture Housing
	Heat Sink

PACKAGE MECHANICAL DATA

.397 x .397 2LFL



	Minimum Inches/mm	Maximum Inches/mm
A	.015/0.38	.025/0.64
B	.890/22.61	.910/23.11
C	.640/16.26	.660/16.76
D	.120/3.05	.130/3.30
E	.380/9.65	.390/9.91
F	.392/9.96	.402/10.29

	Minimum Inches/mm	Maximum Inches/mm
G	.240/6.10	.260/6.60
H	.885/22.48	
I	.055/1.40	.065/1.65
J	.110/2.79	.130/3.30
K	.003/0.08	.006/0.15
L	.200/5.08	.220/5.59