

SD1014-06

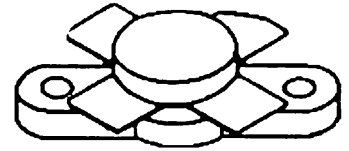
RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 15$ WATTS
- $G_P = 6.3$ dB MINIMUM
- COMMON EMITTER CONFIGURATION

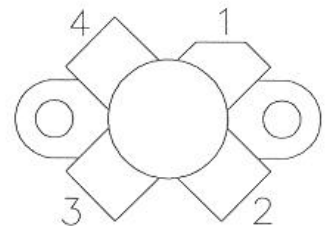
DESCRIPTION:

The SD1014-06 is an epitaxial silicon NPN planar transistor designed primarily for VHF mobile communications. This device utilizes emitter ballasting for improved ruggedness and reliability.



.380 4LFL (M113)
epoxy sealed

PIN CONNECTION



1. Collector 3. Base
2. Emitter 4. Emitter

ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	2.5	A
P_{DISS}	Power Dissipation	31	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	5.6	°C/W
---------------	----------------------------------	-----	------

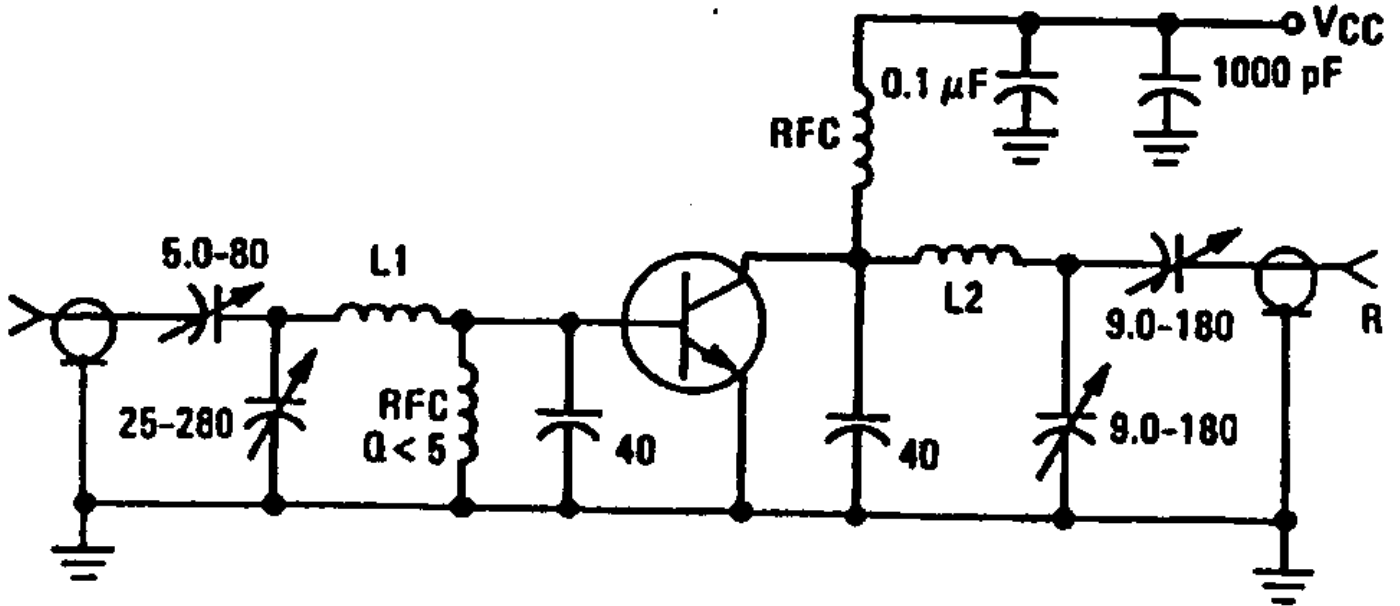
ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CES}	I_C = 10 mA V_{BE} = 0 V	36	---	---	V
BV_{CEO}	I_C = 20 mA I_B = 0 mA	18	---	---	V
BV_{EBO}	I_E = 2 mA I_C = 0 mA	4.0	---	---	V
I_{CBO}	V_{CB} = 15 V I_E = 0 mA	---	---	0.5	mA
H_{FE}	V_{CE} = 5 V I_C = 500 mA	5	---	200	---

DYNAMIC

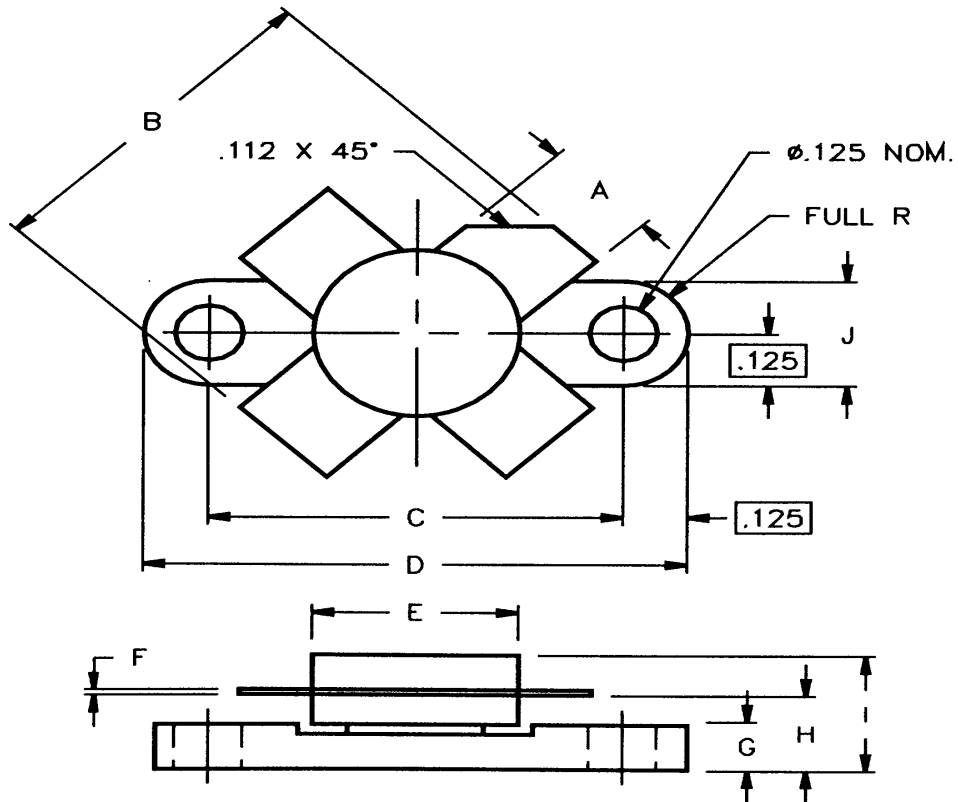
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	f = 175 MHz P_{IN} = 3.5W V_{CE} = 12.5V	15	---	---	W
η_C	f = 175 MHz P_{IN} = 3.5W V_{CE} = 12.5V	60	---	---	%
G_P	f = 175 MHz P_{IN} = 3.5W V_{CE} = 12.5V	6.3	----	---	dB
C_{OB}	f = 1 MHz V_{CB} = 15V	---	---	85	pf

TEST CIRCUIT



- L1 : #14 AWG Wire, 1 3/8" Long
- L2 : 1 Turn, #14 AWG Wire, 3/8" Diameter
1 1/2" Long

PACKAGE MECHANICAL DATA



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I		.260/7,11
B	.785/19,94		J	.240/6,10	.255/6,48
C	.720/18,29	.730/18,54			
D	.970/24,64	.980/24,89			
E		.385/9,78			
F	.004/0,10	.006/0,15			
G	.085/2,16	.105/2,67			
H	.160/4,06	.180/4,57			