ADVANCED
POWER
TECHNOLOGY RF®

140 COMMERCE DRIVE
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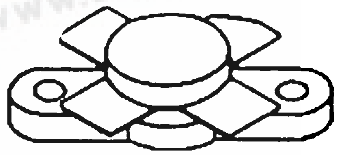
SD1014-06

RF & MICROWAVE TRANSISTORS
VHF MOBILE APPLICATIONS



.380 4LFL (M113)
epoxy sealed

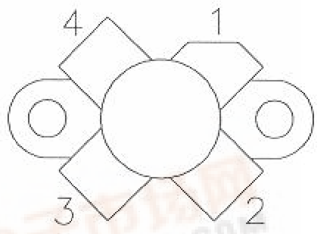
Features

- 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.

PIN CONNECTION



1. Collector
2. Emitter
3. Base
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

SD1014-06

ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

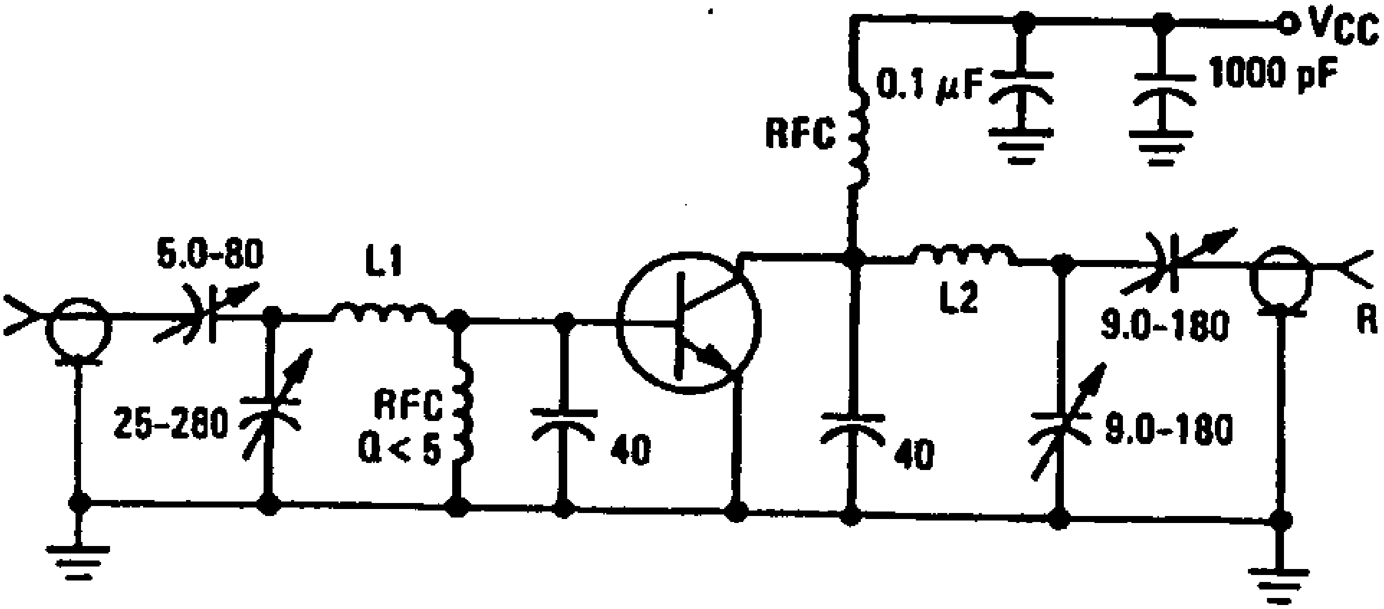
STATIC

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

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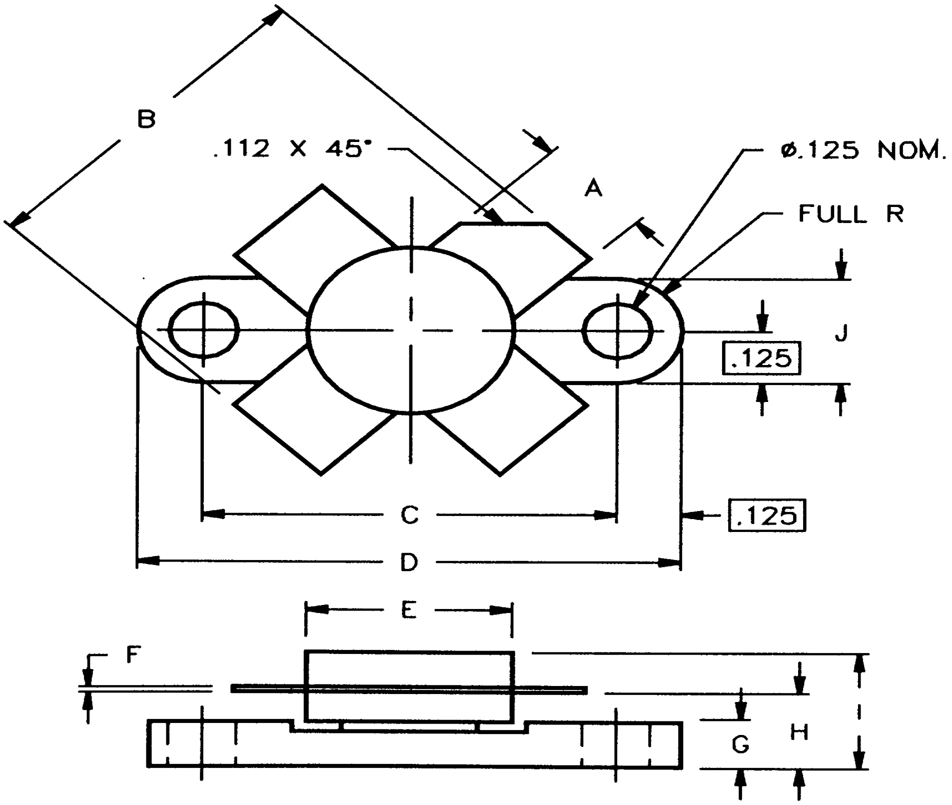
PACKAGE MECHANICAL DATA



	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			