

SD1013

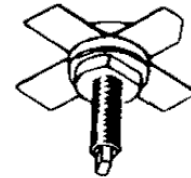
RF & MICROWAVE TRANSISTORS VHF FM MOBILE APPLICATIONS

Features

- 150 MHz
- 28 VOLTS
- $P_{OUT} = 10$ WATTS
- $G_P = 10$ dB MINIMUM
- COMMON EMITTER CONFIGURATION

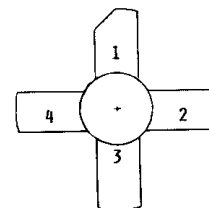
DESCRIPTION:

The SD1013 is an epitaxial silicon NPN planar transistor designed primarily for VHF FM applications. The device utilizes emitter ballasting resistors and improved metallization systems to achieve extreme ruggedness under severe operating conditions.



.380 4LSTUD (M135)
epoxy sealed

PIN CONNECTION



1 collector 3 base
2 emitter 4 emitter

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CEO}	Collector-Emitter Voltage	35	V
V_{CES}	Collector-Base Voltage	65	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	1.0	A
P_{DISS}	Power Dissipation	13	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	13.5	°C/W
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

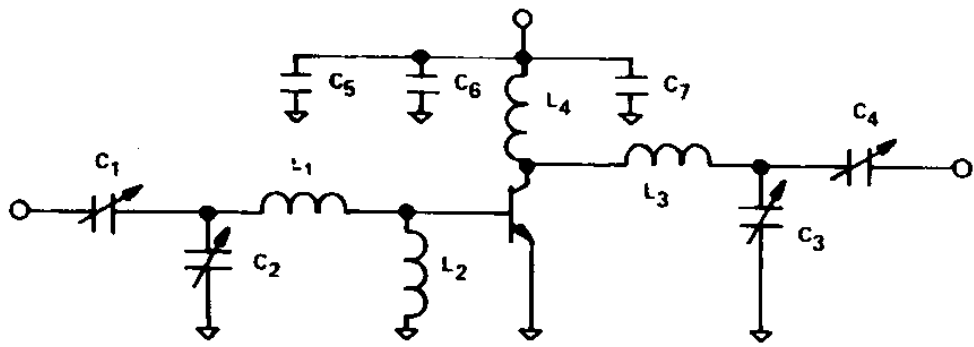
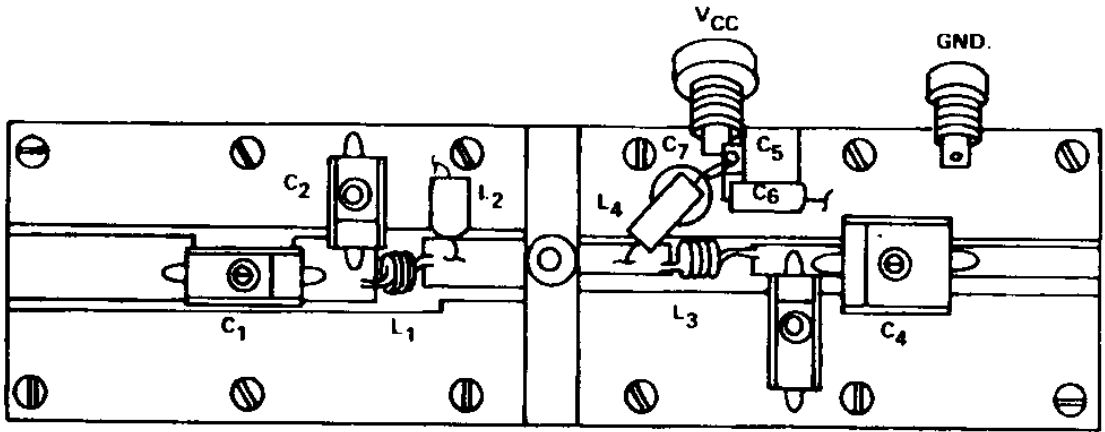
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 200 mA	I_E = 0 mA	65	---	---	V
BV_{CES}	I_C = 200 mA	V_{BE} = 0 V	65	---	---	V
BV_{CEO}	I_C = 200 mA	I_B = 0 mA	35	---	---	V
BV_{EBO}	I_E = 10 mA	I_C = 0 mA	4.0	---	---	V
I_{CBO}	V_{CB} = 30 V	I_E = 0 mA	---	---	1.0	mA
HFE	V_{CE} = 5 V	I_C = 200 mA	5	---	---	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 150 MHz	P_{IN} = 1.0 W	V_{CC} = 28 V	10	---	---	W
G_P	f = 150 MHz	P_{IN} = 1.0 W	V_{CC} = 28 V	10	---	---	dB
C_{OB}	f = 1 MHz	V_{CB} = 30 V		---	---	15	pF

Note: When used at 13.5 Volts, performances are:
P_{OUT} = 3.5 Watt typical
G_P = 10.5 dB typical

TEST CIRCUIT



- C1,C2 : ARCO 422
- C3 : ARCO 421
- C4 : ARCO 464
- C5 : 1000pF UNELCO
- C6 : 10µF Electrolytic 35V

- C7 : .01pF Ceramic Disc
- L1 : 3Turns #22, 1/8" I.D.
- L2 : RFC Ferroxcube
- L3 : 3 Turns #18, 1/4" I.D
- L4 : .47µH Molded Choke

PACKAGE MECHANICAL DATA

