

SD1013

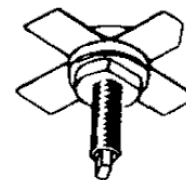
RF & MICROWAVE TRANSISTORS VHF FM MOBILE APPLICATIONS

Features

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

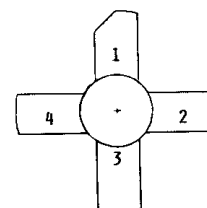
DESCRIPTION:

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 (T_{case} = 25°C)

STATIC

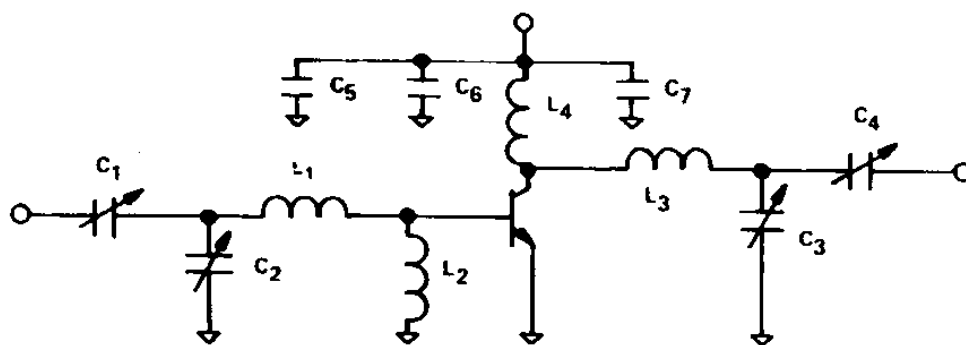
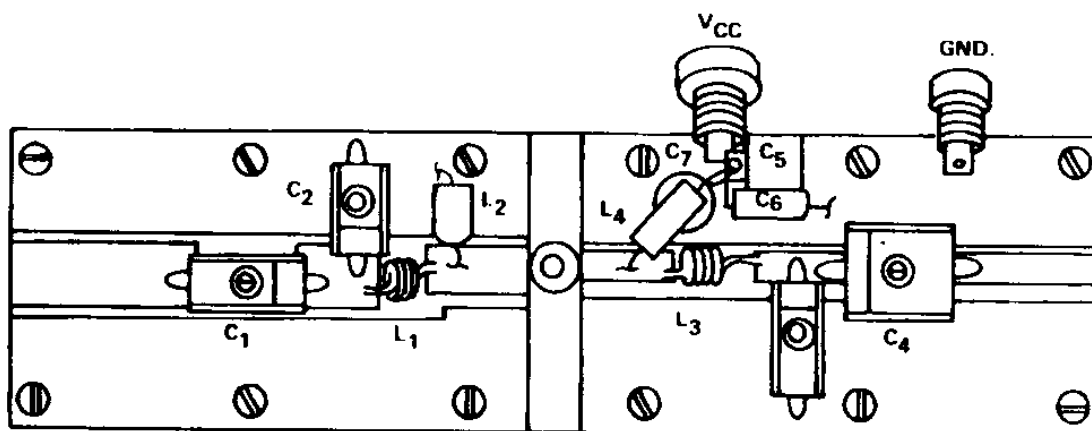
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 200 mA I_E = 0 mA	65	---	---	V
BV_{CES}	I_C = 200 mA V_{BE} = 0 V	65	---	---	V
BV_{CEO}	I_C = 200 mA I_B = 0 mA	35	---	---	V
BV_{EBO}	I_E = 10 mA I_C = 0 mA	4.0	---	---	V
I_{CBO}	V_{CB} = 30 V I_E = 0 mA	---	---	1.0	mA
HFE	V_{CE} =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

