Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

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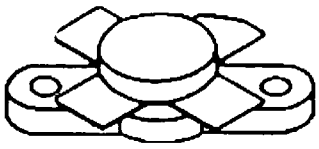
Microsemi
POWER PRODUCTS GROUP

SD1224-02

RF AND MICROWAVE TRANSISTORS
VHF FM APPLICATIONS

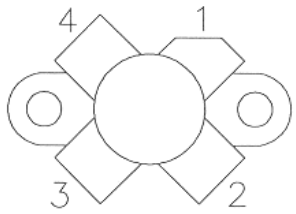


.380 4LFL (M113)
epoxy sealed

Features

- **175 MHz**
- **28 VOLTS**
- **CLASS C**
- **COMMON EMITTER**
- **EFFICIENCY 60% MIN.**
- **P_{OUT} = 40 W MIN.**
- **G_P = 7.6 dB GAIN**

PIN CONNECTION



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

DESCRIPTION:
The SD1224-02 is an epitaxial silicon NPN planar transistor designed primarily for 28 V FM Class C RF amplifiers utilized in ground station transmitters. This device utilizes ballasted emitter resistors and improved metallization systems to achieve optimum load mismatch capability.

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CEO}	Collector-Emitter Voltage	35	V
V_{CES}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	5.0	A
P_{DISS}	Power Dissipation	60	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	2.9	°C/W

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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Units
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 200 mA	I_B = 0 mA	65			V
BV_{CES}	I_C = 200 mA	V_{BE} = 0 V	65			V
BV_{CEO}	I_C = 100 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	mA
h_{FE}	V_{CE} = 5 V	I_C = 500 mA	20	200		

DYNAMIC

Symbol	Test Conditions			Value			Units
				Min.	Typ.	Max.	
P_{OUT}	f = 175 MHz	P_{IN} = 7.0 W	V_{CE} = 28 V	40			W
η_C	f = 175 MHz	P_{IN} = 7.0 W	V_{CE} = 28 V	60			%
G_P	f = 175 MHz	P_{IN} = 7.0 W	V_{CE} = 28 V	7.6			dB
C_{OB}	f = 1 MHz	V_{CB} = 30 V				65	pF

Revision A, October 2009

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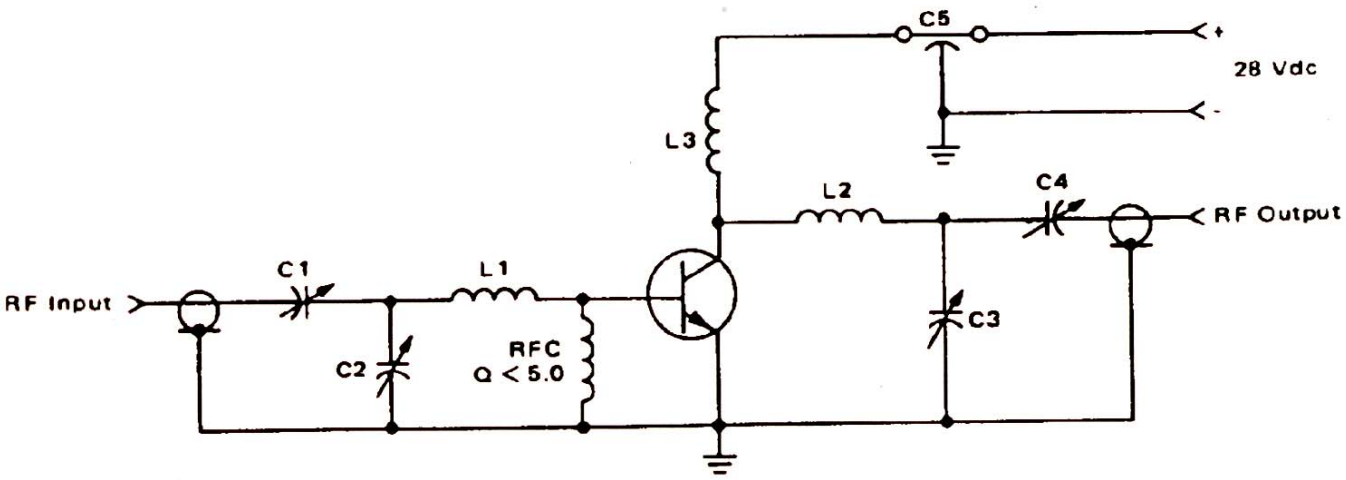
TEST CIRCUIT



C1,C2, C3,C4	:	ARCO 464, 25-280pF
C5	:	0.1µF
L1	:	1" Straight #16 AWG
L2	:	1 Turn, #16 AWG, 1/4" I.D.
L3	:	0.22µH

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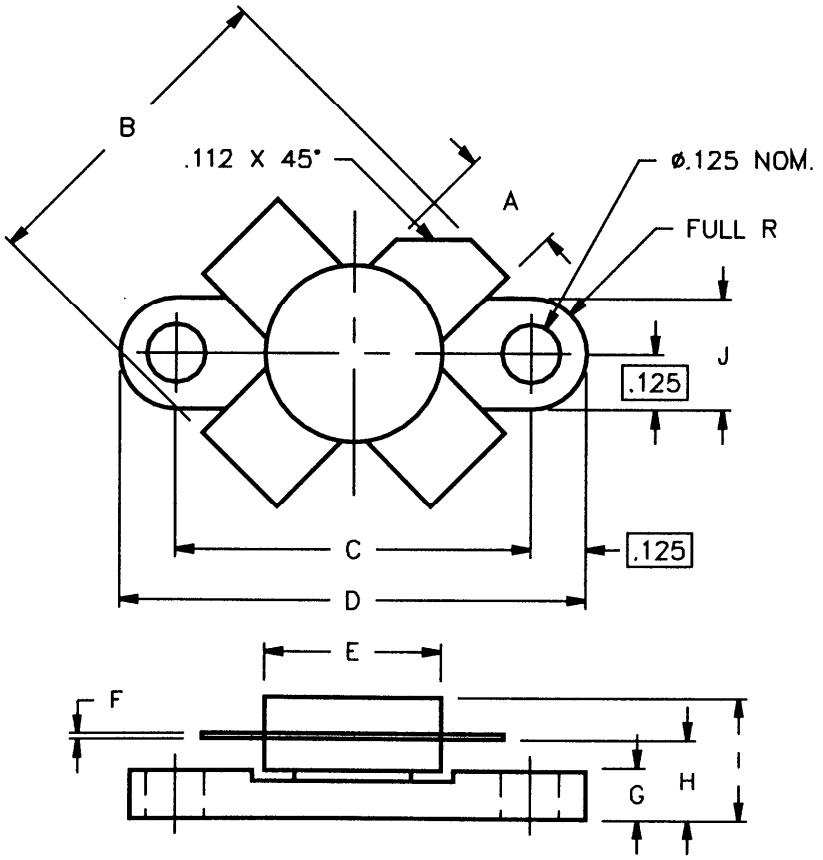
PACKAGE MECHANICAL DATA



	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			

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