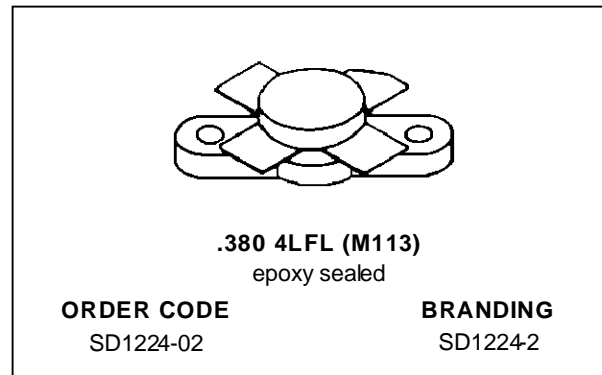
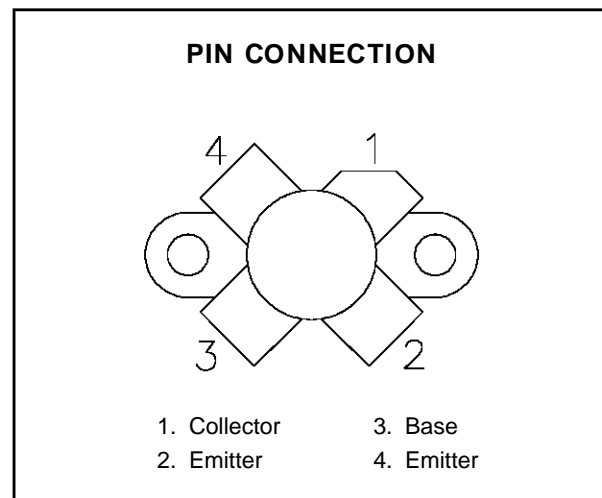


**RF & MICROWAVE TRANSISTORS  
VHF APPLICATIONS**

- 175 MHz
- 28 VOLTS
- EFFICIENCY 60%
- COMMON EMITTER
- GOLD METALLIZATION
- P<sub>OUT</sub> = 40 W MIN. WITH 7.6 dB GAIN


**DESCRIPTION**

The SD1224-02 is an epitaxial silicon NPN planar transistor designed primarily for 12.5 V AM Class C RF amplifiers functional in the aviation band 118 - 136 MHz and for 28 V FM Class C RF amplifiers utilized in ground station transmitters. It withstands extremely high VSWR under operating conditions.


**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector-Base Voltage	65	V
V <sub>CEO</sub>	Collector-Emitter Voltage	35	V
V <sub>CES</sub>	Collector-Emitter Voltage	65	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>c</sub>	Device Current	5.0	A
P <sub>DISS</sub>	Power Dissipation	60	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

**THERMAL DATA**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	2.9	°C/W
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## SD1224-02

### ELECTRICAL SPECIFICATIONS ( $T_{case} = 25^{\circ}C$ )

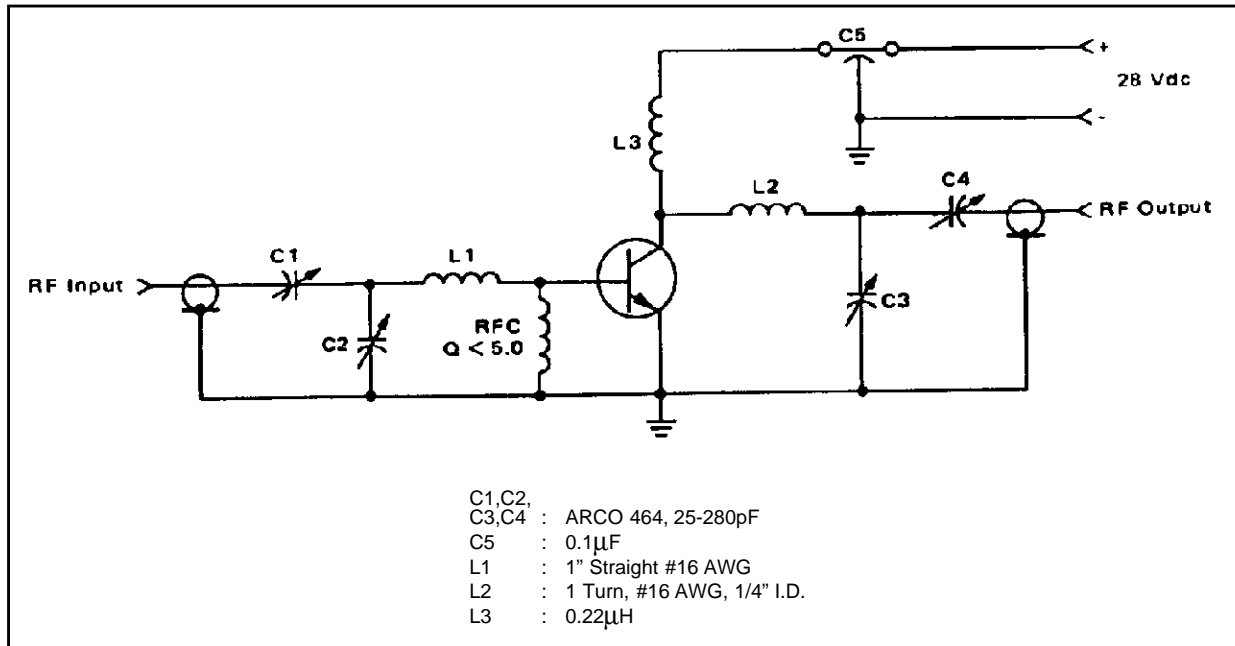
#### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 10 \text{ mA}$	$V_{BE} = 0 \text{ V}$	65	—	—	V
$BV_{CES}$	$I_C = 200 \text{ mA}$	$V_{BE} = 0 \text{ V}$	65	—	—	V
$BV_{CEO}$	$I_C = 200 \text{ mA}$	$I_B = 0 \text{ mA}$	35	—	—	V
$BV_{EBO}$	$I_E = 10 \text{ mA}$	$I_C = 0 \text{ mA}$	4.0	—	—	V
$I_{CBO}$	$V_{CB} = 30 \text{ V}$	$I_E = 0 \text{ mA}$	—	—	1	mA
$h_{FE}$	$V_{CE} = 5 \text{ V}$	$I_C = 500 \text{ mA}$	5	—	—	—

#### DYNAMIC

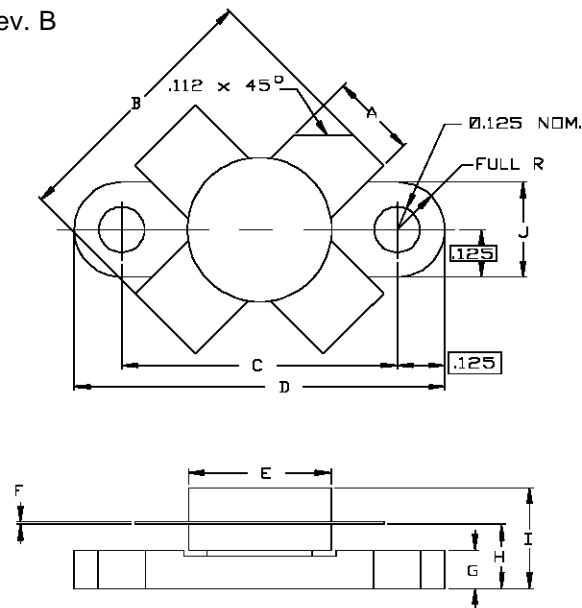
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{OUT}$	$f = 175 \text{ MHz}$	$P_{IN} = 7 \text{ W}$	$V_{CC} = 28 \text{ V}$	40	—	—	W
$\eta_c$	$f = 175 \text{ MHz}$	$P_{OUT} = 40 \text{ W}$	$V_{CC} = 28 \text{ V}$	60	—	—	%
$P_G$	$f = 175 \text{ MHz}$	$P_{IN} = 7 \text{ W}$	$V_{CC} = 28 \text{ V}$	7.6	—	—	dB
$C_{OB}$	$f = 1 \text{ MHz}$	$V_{CB} = 30 \text{ V}$		—	—	65	pF

#### TEST CIRCUIT



## PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0113 rev. B



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84
B	.785/19,94	
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
I		.280/7,11
J	.240/6,10	.255/6,48

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