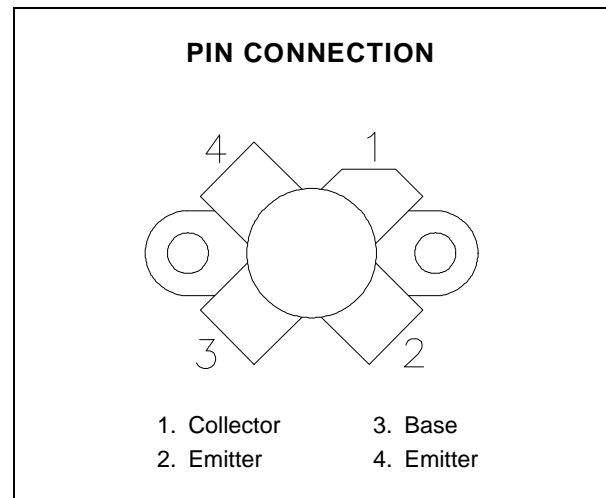
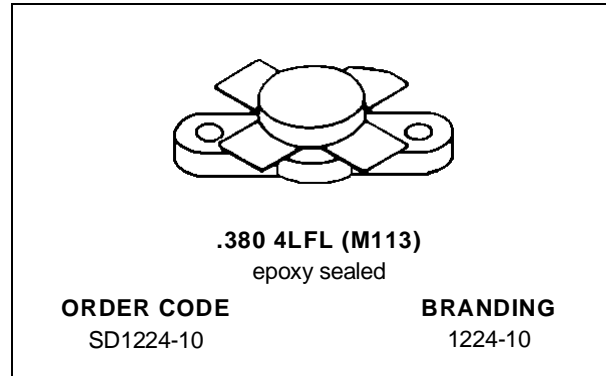


**RF & MICROWAVE TRANSISTORS  
HF SSB APPLICATIONS**

- 30 MHz
- 28 VOLTS
- IMD -28 dB
- COMMON EMITTER
- GOLD METALLIZATION
- P<sub>OUT</sub> = 30 W MIN. WITH 18 dB GAIN


**DESCRIPTION**

The SD1224-10 is a 28 V epitaxial silicon NPN planar transistor designed primarily for SSB communications. This device utilizes emitter ballasting for improved ruggedness and reliability.

**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	36	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	4.5	A
P <sub>DISS</sub>	Power Dissipation	80	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	2.2	°C/W
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## SD1224-10

### ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

#### STATIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 200mA	I <sub>E</sub> = 0mA	65	—	—	V	
BV <sub>CES</sub>	I <sub>C</sub> = 200mA	V <sub>BE</sub> = 0V	65	—	—	V	
BV <sub>CEO</sub>	I <sub>C</sub> = 200mA	I <sub>B</sub> = 0mA	35	—	—	V	
BV <sub>EBO</sub>	I <sub>E</sub> = 10mA	I <sub>C</sub> = 0mA	4.0	—	—	V	
I <sub>CBO</sub>	V <sub>CB</sub> = 30V	I <sub>E</sub> = 0mA	—	—	1	mA	
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = .5A	5	—	200	—	

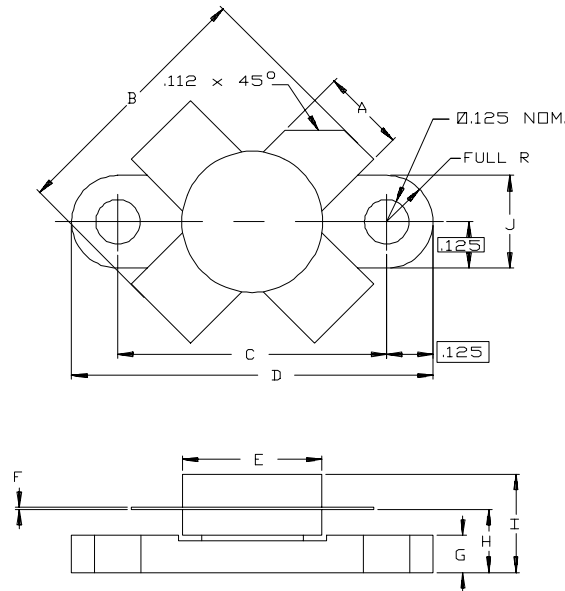
#### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 25 mA	30	—	—	W
G <sub>P</sub>	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 25 mA	18	20	—	dB
IMD	f = 30 MHz	V <sub>CE</sub> = 28 V	I <sub>CQ</sub> = 25 mA	—	- 32	- 28	dB
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 30 V		—	—	65	pF

Note: P<sub>IN</sub> = 0.48W

## PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0



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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