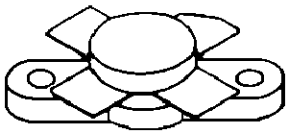
SGS-THOMSON MICROELECTRONICS

SD1224-10

RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

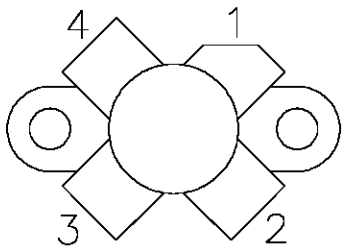
- 30 MHz
- 28 VOLTS
- IMD –28 dB
- COMMON EMITTER
- GOLD METALLIZATION
- P_{OUT} = 30 W MIN. WITH 18 dB GAIN



.380 4LFL (M113)
epoxy sealed

ORDER CODE	BRANDING
SD1224-10	1224-10

PIN CONNECTION



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

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_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CEO}	Collector-Emitter Voltage	36	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	4.5	A
P_{DISS}	Power Dissipation	80	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	2.2	°C/W

ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

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

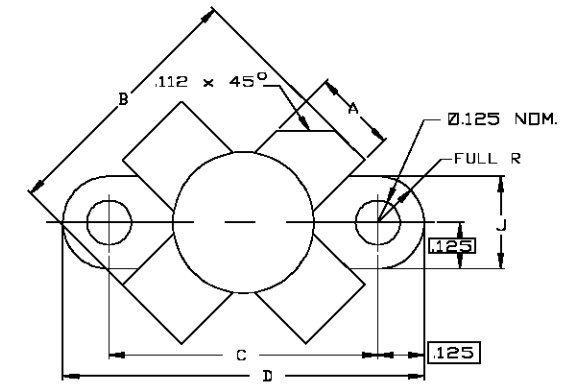
DYNAMIC

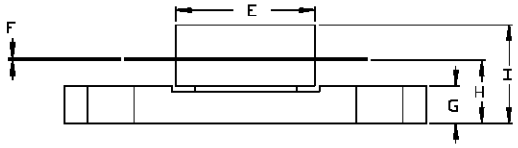
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 30 MHz	V_{CE} = 28 V	I_{CQ} = 25 mA	30	—	—	W
G_P	f = 30 MHz	V_{CE} = 28 V	I_{CQ} = 25 mA	18	20	—	dB
IMD	f = 30 MHz	V_{CE} = 28 V	I_{CQ} = 25 mA	—	– 32	– 28	dB
C_{OB}	f = 1 MHz	V_{CB} = 30 V		—	—	65	pF

Note: P_{IN} = 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