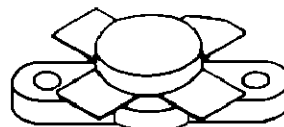


## RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

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



**.380 4LFL (M113)**  
epoxy sealed

**ORDER CODE**

SD1224-10

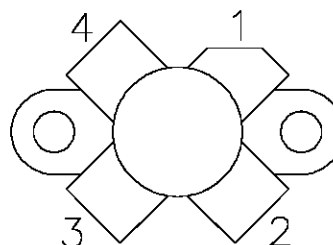
**BRANDING**

1224-10

### 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.

### PIN CONNECTION



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

### ABSOLUTE MAXIMUM RATINGS ( $T_{case} = 25^{\circ}\text{C}$ )

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	$^{\circ}\text{C}$
$T_{STG}$	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

### THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.2	$^{\circ}\text{C/W}$
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## SD1224-10

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

#### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 200\text{mA}$	$I_E = 0\text{mA}$	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
$h_{FE}$	$V_{CE} = 5\text{V}$	$I_C = .5\text{A}$	5	—	200	—

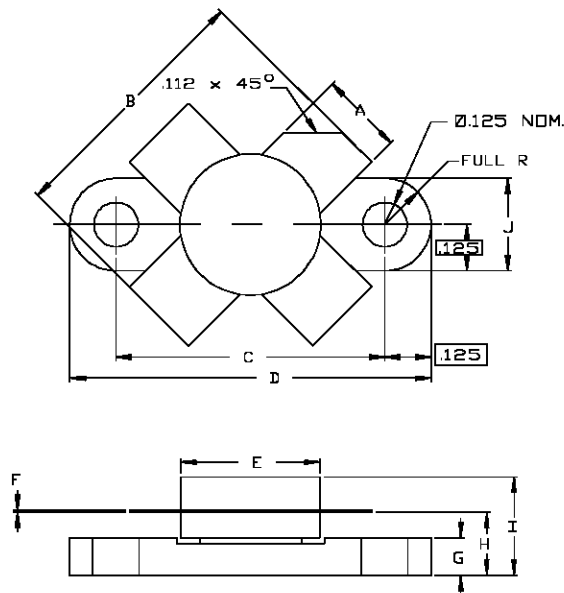
#### DYNAMIC

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

Note:  $P_{IN} = 0.48\text{W}$

## 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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