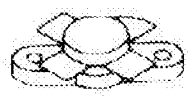
RF Products
Microsemi
Engineered Solutions for Tomorrow

140 Commerce Drive
Montgomeryville, PA 18936-1013
Tel: (215) 631-9840

SD1224-2

RF & MICROWAVE TRANSISTORS 108...152MHz APPLICATIONS

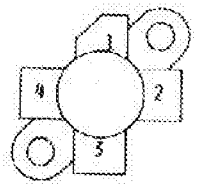
- CLASS C TRANSISTOR
- FREQUENCY 175MHz
- VOLTAGE 28V
- POWER OUT 40W
- POWER GAIN 7.6dB
- EFFICIENCY 60%
- GOLD METALLIZATION
- COMMON EMITTER



.380 4LFL (M113)
epoxy sealed

ORDER CODE	BRANDING
SD1224-02	SD1224-2

PIN CONNECTION



98SD1224-2.EPS

1 collector
2 emitter
3 base
4 emitter

DESCRIPTION

The SD1224-2 is an epitaxial silicon NPN planar transistor designed primarily for 12.5V AM Class C RF amplifiers functional in the aviation band 118-136MHz and for 28V FM Class C RF amplifiers utilized in ground station transmitters. It withstands extremely high VSWR under rated conditions.

ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - Base Voltage	65.0	V
V_{CEO}	Collector - Emitter Voltage	35.0	V
V_{CES}	Collector - Emitter Voltage	65	V
V_{EBO}	Emitter - Base Voltage	4.0	V
I_C	Collector Current	5.0	A
P_{tot}	Total Power Dissipation	60.0	W
T_{stg}	Storage Temperature	- 65 to + 150	°C
T_j	Junction Temperature	+ 200	°C

THERMAL DATA

$R_{th(j-c)}$	Junction-case Thermal Resistance	2.9	°C/W

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

STATIC

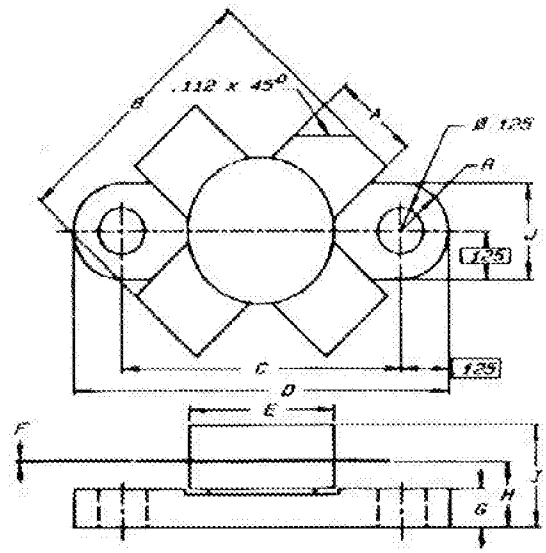
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 200mA	V_{BE} = 0	65.0			V
BV_{CEO}	I_C = 200mA	I_B = 0	35.0			V
BV_{EBO}	I_E = 10mA	I_C = 0	4.0			V
I_{CEO}	V_{CE} = 30.0V	I_E = 0			1	mA
h_{FE}	V_{CE} = 5.0V	I_C = 500mA	5.0			

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_O	f = 175MHz	V_{CE} = 28.0V		40.0			W
G_P	f = 175MHz	V_{CE} = 28.0V		7.6			dB
η_C	f = 175MHz	V_{CE} = 28V	P_d = 40W	60			%
C_{OB}	f = 1MHz	V_{CB} = 30.0V	I_E = 0			65.0	pF

PACKAGE MECHANICAL DATA

.380 4LFL



	Minimum Inches/mm	Maximum Inches/mm
A	.220/6.59	.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