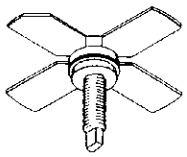
SGS-THOMSON MICROELECTRONICS

SD1420

RF & MICROWAVE TRANSISTORS 800-900 MHz BASE STATION APPLICATIONS

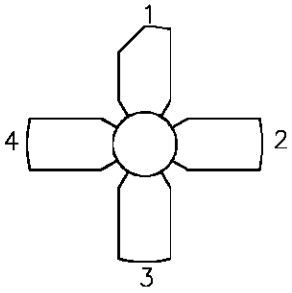
- 860 - 960 MHz
- 24 VOLTS
- COMMON EMITTER
- GOLD METALLIZATION
- CLASS A LINEAR OPERATION
- P_{OUT} = 2.1 W MIN. WITH 9.0 dB GAIN



.280 4L STUD (M122)
epoxy sealed

ORDER CODE	BRANDING
SD1420	SD1420

PIN CONNECTION



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

DESCRIPTION

The SD1420 is a gold metallized epitaxial silicon NPN planar transistor designed for high linearity Class A operation Cellular Base Station applications. The SD1420 is also available in a studless package as the SD1420-01.

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	28	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	.250	A
P_{DISS}	Power Dissipation	8.75	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	– 55 to +150	°C

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	20	°C/W

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 1 mA	I_E = 0 mA	40	—	—	V
BV_{CEO}	I_C = 1 mA	I_B = 0 mA	28	—	—	V
BV_{EBO}	I_E = 1 mA	I_C = 0 mA	3.5	—	—	V
I_{CBO}	V_{CB} = 24 V	I_E = 0 mA	—	—	.5	mA
h_{FE}	V_{CE} = 5 V	I_C = 100 mA	20	—	120	—

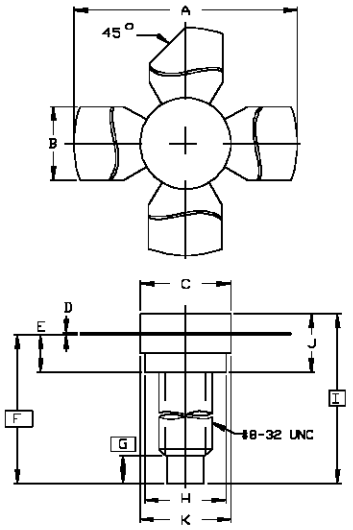
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 960 MHz	V_{CE} = 24 V	I_{CQ} = 200 mA	2.1	—	—	W
P_G	f = 960 MHz	V_{CE} = 24 V	I_{CQ} = 200 mA	8.9	9.0	—	dB
C_{OB}	f = 1 MHz	V_{CB} = 28 V		—	—	5	pF

Note: $*P_{IN}$ = 0.27 W

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0122 rev. B



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	1.010/25,65	1.055/26,80
B	.220/5,59	.230/5,84
C	.270/6,86	.285/7,24
D	.003/0,08	.007/0,18
E	.117/2,97	.137/3,48
F	.572/14,53	
G	.130/3,30	
H	.245/6,22	.255/6,48
I	.640/16,26	
J	.175/4,45	.217/5,51
K	.275/6,99	.285/7,24