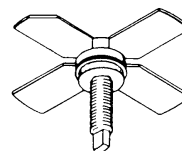


RF & MICROWAVE TRANSISTORS 800-900 MHz BASE STATION APPLICATIONS

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



.280 4L STUD (M122)

epoxy sealed

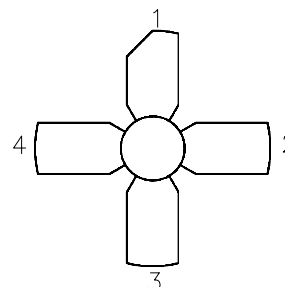
ORDER CODE
SD1420

BRANDING
SD1420

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.

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	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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 55 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	20	$^{\circ}\text{C/W}$
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SD1420

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 1 \text{ mA}$	$I_{\text{E}} = 0 \text{ mA}$	40	—	—	V
BV_{CEO}	$I_{\text{C}} = 1 \text{ mA}$	$I_{\text{B}} = 0 \text{ mA}$	28	—	—	V
BV_{EBO}	$I_{\text{E}} = 1 \text{ mA}$	$I_{\text{C}} = 0 \text{ mA}$	3.5	—	—	V
I_{CBO}	$V_{\text{CB}} = 24 \text{ V}$	$I_{\text{E}} = 0 \text{ mA}$	—	—	.5	mA
h_{FE}	$V_{\text{CE}} = 5 \text{ V}$	$I_{\text{C}} = 100 \text{ mA}$	20	—	120	—

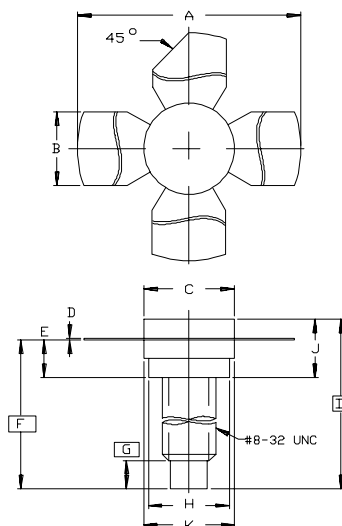
DYNAMIC

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

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

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

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