

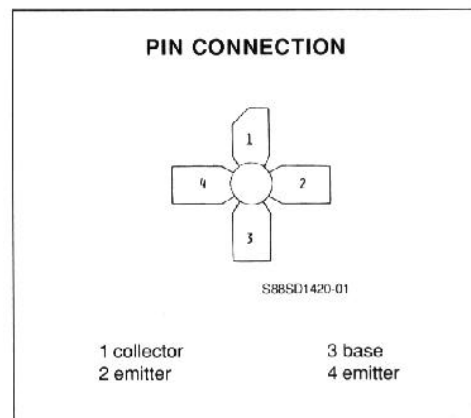
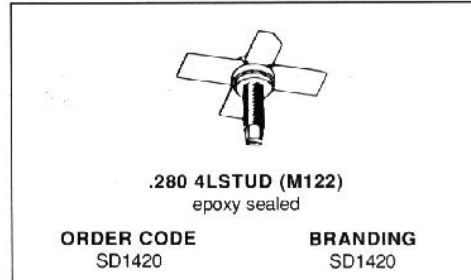
Microsemi
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SD1420

RF & MICROWAVE TRANSISTORS
860-960MHz CLASS AB BASE STATION

- FREQUENCY 860 - 960MHz
- POWER OUT 2.1W
- VOLTAGE 24V
- POWER GAIN 9.0dB
- CLASS AB
- DESIGNED FOR LINEAR OPERATION
- GOLD METALLIZATION FOR HIGH RELIABILITY
- COMMON EMITTER CONFIGURATION



DESCRIPTION

The SD1420 is a gold metallized epitaxial silicon NPN Planar Transistor designed for high linearity Class AB operation for Cellular Base Station applications. The SD1420 was developed as a driver for the SD1423. The SD1420 is available in a studless package as the SD1420-01.

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - Base Voltage	40.0	V
V_{CEO}	Collector - Emitter Voltage	28.0	V
V_{EBO}	Emitter - Base Voltage	3.5	V
I_C	Collector Current (max.)	.250	A
P_{TOT}	Total Device Dissipation at + 25°C	7.0	W
T_{STG}	Storage Temperature	- 55 to + 150	°C
T_J	Junction Temperature	+ 200	°C

THERMAL DATA

$R_{th(J-C)}$	Junction-case Thermal Resistance	20.0	°C/W
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SD1420**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

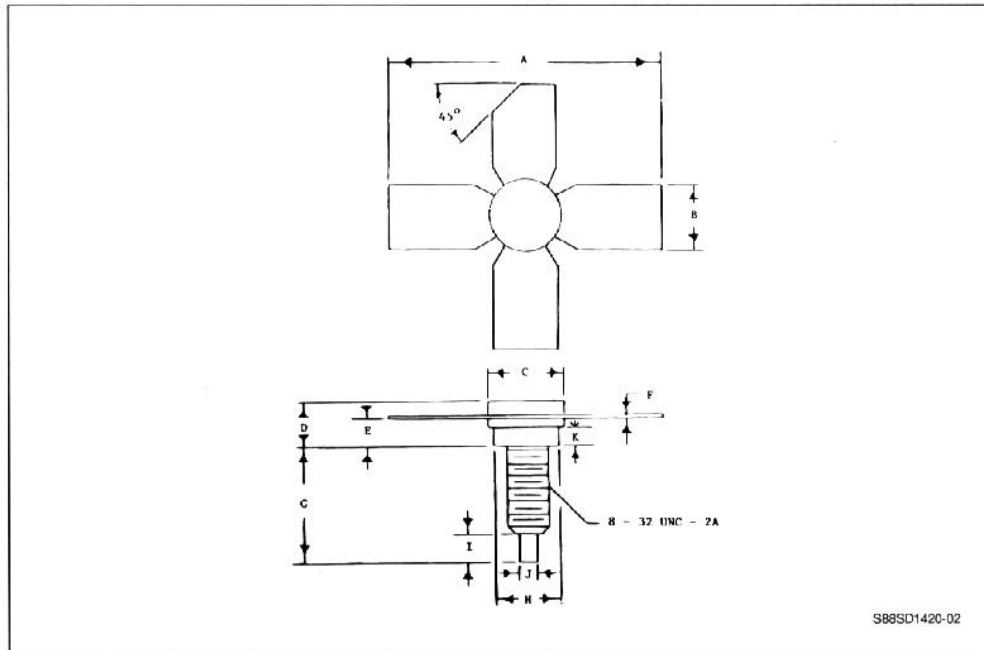
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CEO}	$I_{\text{C}} = 1\text{mA}$	28	30		V
BV_{CBO}	$I_{\text{C}} = 1\text{mA}$	40.0			V
BV_{EBO}	$I_{\text{E}} = .25\text{mA}$	3.5			V
I_{CEO}	$V_{\text{CB}} = 24.0\text{V}$.5	mA
h_{FE}	$V_{\text{C}} = 5.0\text{V}$ $I_{\text{C}} = .1\text{A}$	20		120	

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{O}	$f = 960\text{MHz}$ $V_{\text{CE}} = 24\text{V}$ $I_{\text{CC}} = .2\text{A}$	2.1			W
P_{G}	$f = 960\text{MHz}$ $V_{\text{CE}} = 24\text{V}$	8.9	9.0		dB
C_{ob}	$f = 1\text{MHz}$ $V_{\text{CB}} = 28.0\text{V}$			5.0	pF

PACKAGE MECHANICAL DATA

.280 4LSTUD



	Minimum Inches	Maximum Inches
A		1.055
B	.220	.230
C	.275	.285
D	.178	.192
E	.110	.125
F	.004	.006

	Minimum Inches	Maximum Inches
G	.445	.465
H	.245	.255
I	.120	.140
J	.055	.065
K	.055	.065