

SD1014-02

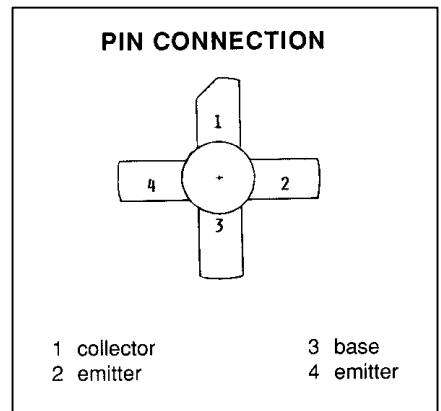
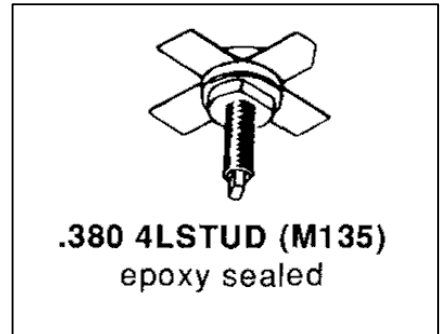
RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

Features

- 175 MHz
- 12.5 VOLTS
- GOLD METALIZATION
- $P_{OUT} = 15$ W MINIMUM
- $G_P = 6.3$ dB
- COMMON EMITTER CONFIGURATION

DESCRIPTION:

The SD1014-02 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for VHF mobile and marine transmitters. Emitter ballasting is employed to achieve excellent ruggedness under severe load mismatch conditions.



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	36	V
V_{CEO}	Collector-Emitter Voltage	18	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	2.5	A
P_{DISS}	Power Dissipation	31	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

THERMAL DATA

$R_{TH(J-C)}$	Junction-case Thermal Resistance	5.6	°C/W
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	I_C = 10mA	V_{BE} = 0V	36	---	---	V
BV_{CEO}	I_C = 20mA	I_B = 0mA	18	---	---	V
BV_{EBO}	I_E = 2mA	I_C = 0mA	4.0	---	---	V
I_{CBO}	V_{CB} = 15V	I_E = 0mA	---	---	0.5	mA
h_{FE}	V_{CE} = 5V	I_C = 500mA	5	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	f = 175MHz	V_{CC} = 12.5V	P_{IN} = 3.5W	15	---	---	W
G_p	f = 175MHz	V_{CC} = 12.5V	P_{IN} = 3.5W	6.3	---	---	dB
η_C	f = 175MHz	V_{CC} = 12.5V	P_{IN} = 3.5W	60	---	---	%
C_{OB}	f = 1 MHz	V_{CB} = 15V		---	---	85	pF

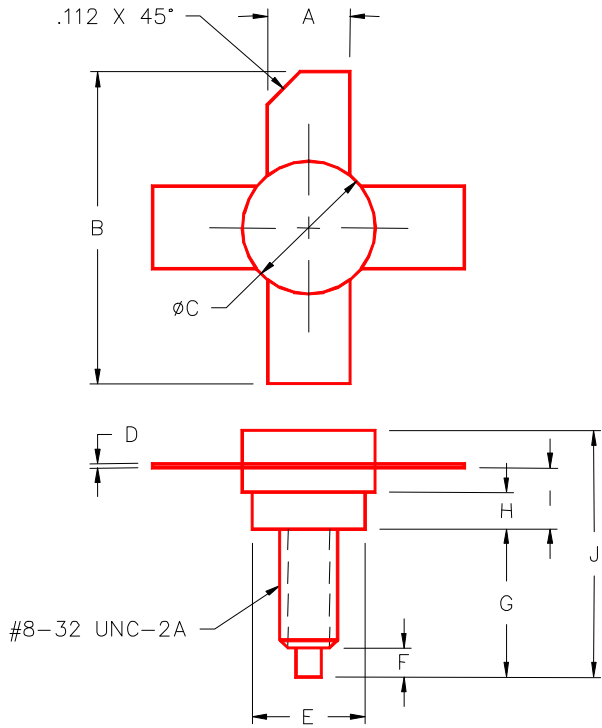
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
175 MHz	1.0 - j1.4	3.3 + j1.2

P_{IN} = 3W, V_{CE} = 12.5V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M135



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.220/5,59	.230/5,84	I	.155/3,94	.175/4,45
B	.980/24,89		J		.750/19,05
C	.370/9,40	.385/9,78			
D	.004/0,10	.007/0,18			
E	.320/8,13	.330/8,38			
F	.100/2,54	.130/3,30			
G	.450/11,43	.490/12,45			
H	.090/2,29	.100/2,54			