

SD1272

**RF & MICROWAVE TRANSISTORS
VHF FM MOBILE APPLICATIONS**

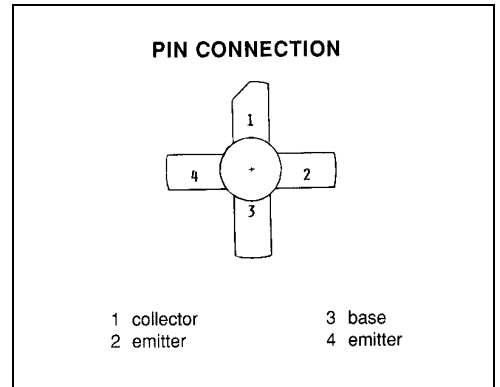
Features

- 175 MHz
- 12.5 VOLTS
- $P_{OUT} = 25$ WATTS
- $G_P = 9.2$ dB MINIMUM
- COMMON EMITTER CONFIGURATION



DESCRIPTION:

The SD1272 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for VHF communications. Emitter ballast resistors provide infinite VSWR capability under rated operating conditions.



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

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	4.0	A
P_{TOT}	Total Power Dissipation	65.0	W
T_{STG}	Storage Temperature	-65 to +150	°C
T_J	Junction Temperature	+200	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	3.5	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 20 mA	I _E = 0 V	36	---	---	V
BV _{CEO}	I _C = 50 mA	I _B = 0 mA	18	---	---	V
BV _{EBO}	I _E = 5 mA	I _C = 0 mA	4.0	---	---	V
I _{CBO}	V _{CB} = 15 V	I _E = 0 mA	---	---	5	mA
HFE	V _{CE} = 5 V	I _C = 250 mA	10	---	100	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P _{OUT}	f = 175 MHz	P _{IN} = 3.0W	V _{CE} = 12.5 V	25	---	---	W
G _P	f = 175 MHz	P _{IN} = 3.0W	V _{CE} = 12.5 V	9.2	---	---	dB
C _{OB}	f = 1 MHz	V _{CB} = 15.0 V		---	---	130	pF

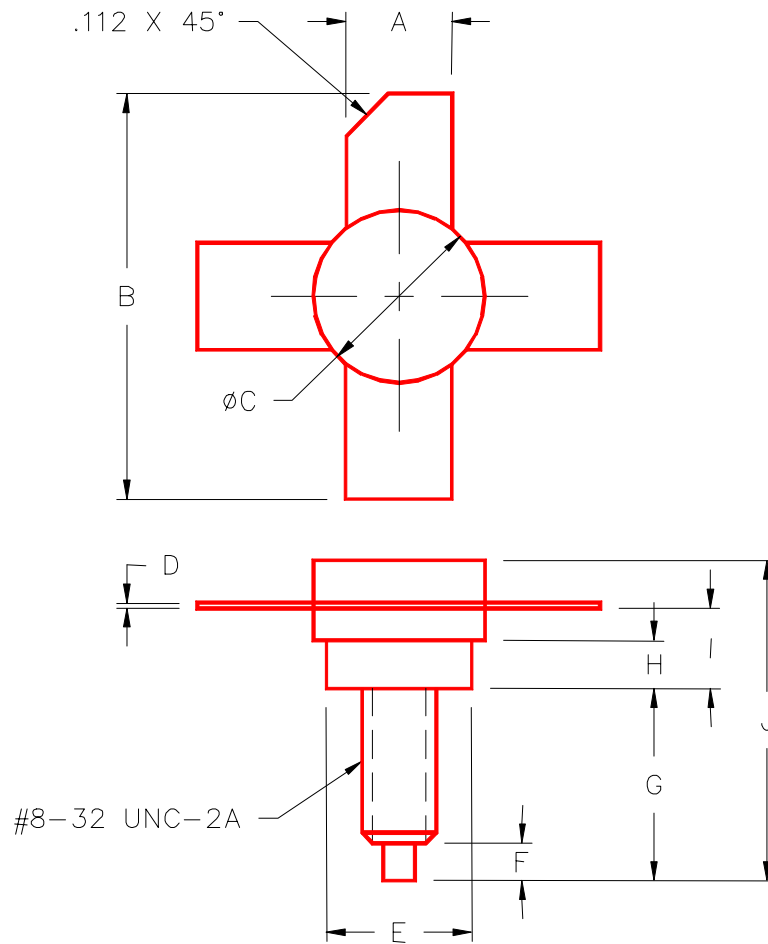
IMPEDANCE DATA

FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
135 MHz	0.9 – j0.5	2.2 + j0.8
150 MHz	0.9 + j0.3	2.1 + j0.9
175 MHz	1.0 + j0.4	1.8 + j1.1

P_{OUT} = 25W
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			