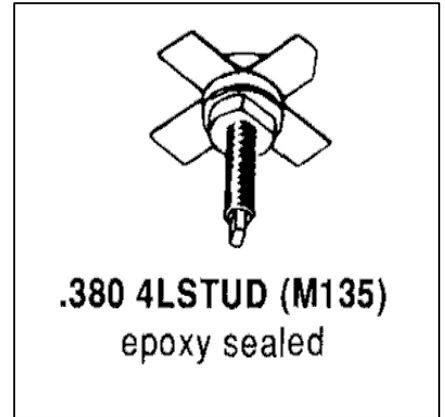


SD1018

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

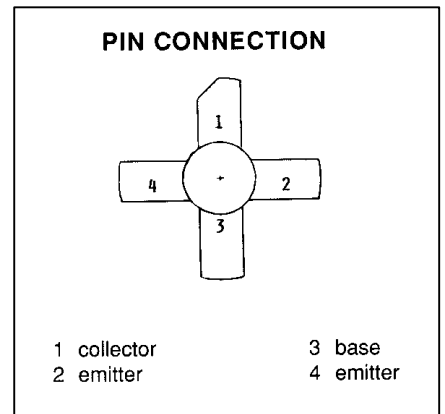
Features

- 175 MHZ
- 12.5 VOLTS
- COMMON EMITTER
- $P_{OUT} = 40 \text{ W MIN.}$
- $G_P = 4.5 \text{ dB GAIN}$



DESCRIPTION:

The SD1018 is an epitaxial silicon NPN planar transistor designed primarily for VHF mobile and marine transmitters. The device utilizes emitter ballasting resistors and improved metallization systems to achieve extreme ruggedness under severe 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	6.0	A
P_{DISS}	Power Dissipation	80	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	2.2	°C/W
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)
STATIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
BV_{CES}	I_C = 20 mA V_{BE} = 0 V	36			V
BV_{CEO}	I_C = 100 mA I_B = 0 mA	18			V
BV_{EBO}	I_E = 10 mA I_C = 0 mA	4.0			V
I_{CB0}	V_{CB} = 15 V I_E = 0 mA			2.5	mA
h_{FE}	V_{CE} = 5 V I_C = 1 A	5			

DYNAMIC

Symbol	Test Conditions	Value			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 175 MHz P_{IN} = 14 W V_{CE} = 12.5 V	40			W
G_P	f = 175 MHz P_{IN} = 14 W V_{CE} = 12.5 V	4.5			dB
η_C	f = 175 MHz P_{OUT} = 40 W V_{CE} = 12.5 V	70			%
C_{OB}	f = 1 MHz V_{CB} = 15 V			200	pF

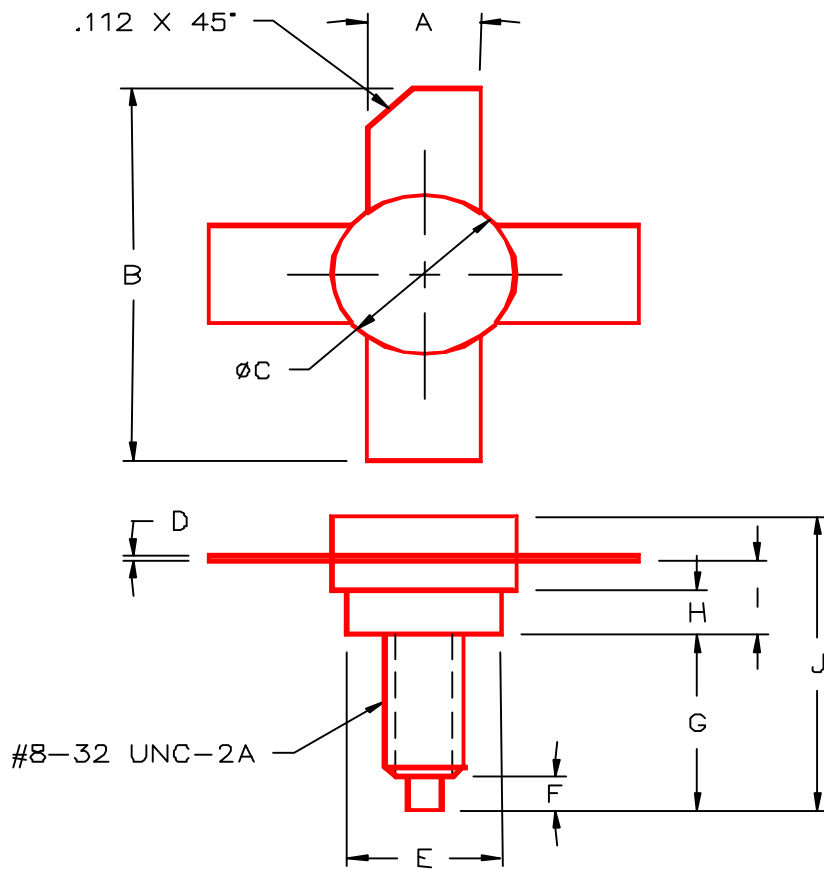
IMPEDANCE DATA

P_{IN} (W)	P_{OUT} (W)	Z_{IN} (Ω)	Z_{OUT} (Ω)
4	21.7	0.8 – j 1.1	2.2 – j 0.3
8	37.1	0.8 – j 1.3	1.7 – j 0.5
12	46.5	0.8 – j 1.6	1.6 – j 0.3

Freq. = 175 MHz
V_{CC} = 12.5 V

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			