Microsemi

RF PRODUCTS DIVISION

SD1070

RF & MICROWAVE TRANSISTORS

PRODUCT PREVIEW

DESCRIPTION

This silicon epitaxial NPN planar high frequency transistor employs a multi emitter electrode design. This feature together with a heavily diffused base matrix located between the individual emitters results in high RF current handling capability, high power gain, low base resistance and low output capacitance. These transistors are intended for Class A, B, or C amplifier, oscillator or frequency multiplier circuits and are specifically designed for operation in the VHF-UHF region.

IMPORTANT: For the most current data, consult *MICROSEMI*'s website: **http://www.microsemi.com**

KEY FEATURES

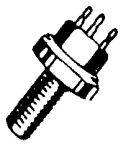
- 130 - 400 MHz
- 28 Volts
- High Power Gain
- High Efficiency
- Common Emitter
- P_{OUT} = 13.5 W Min. @ 175 MHz

APPLICATIONS/BENEFITS

- VHF - UHF Applications

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	65	V
V_{CES}	Collector-Emitter Voltage	40	V
V_{EBO}	Emitter-Base Voltage	4.0	V
I_C	Device Current	3.0	A
P_{DISS}	Power Dissipation	23.0	W
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

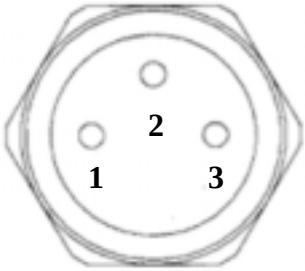


TO 60 (M137)

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	7.6	°C/W

PIN CONNECTION



1. Emitter **3. Collector**

2. Base

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STATIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)

Symbol	Test Conditions	SD1070			Units
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 0.5 mA	65	——	——	V
BV_{EBO}	I_E = 0.25 mA	4	——	——	V
BV_{CEO}	I_C = 200 mA	40	——	——	V
I_{CEO}	V_{CE} = 30 V	——	——	0.25	mA
h_{FE}	V_{CE} = 5 V I_C = 1 A	5	——	——	——

DYMANIC ELECTRICAL SPECIFICATIONS (T_{CASE} = 25°C)

Symbol	Test Conditions	SD1070			Units
		Min.	Typ.	Max.	
P_{OUT}	f = 175 MHz P_{IN} = 3.5 V V_{CC} = 28 V	13.5	——	——	W
η_C	f = 175 MHz P_{IN} = 3.5 V V_{CC} = 28 V	70			%
G_P	f = 175 MHz P_{IN} = 3.5 V V_{CC} = 28 V	5.8	——	——	dB
C_{OB}	f = 1 MHz V_{CB} = 30 V	——	——	20	pF

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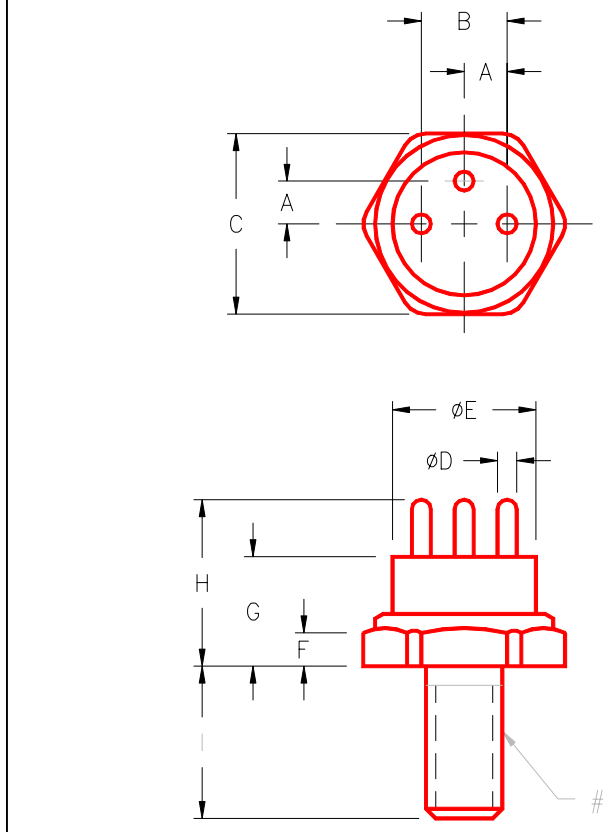
PACKAGE STYLE M137



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM	
A	.090/2,29	.110/2,79	I	.420/10,67	.455/11,56	STANDARD STUD
B	.185/4,70	.215/5,46	I	.140/3,56	.160/4,06	SHORT STUD
C	.420/10,67	.440/11,18				
D	.030/0,76	.046/1,17				
E	.320/8,13	.360/9,14				
F	.090/2,29	.135/3,43				
G	.215/5,46	.320/8,13				
H		.480/12,19				

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NOTES

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