

SD1536-03

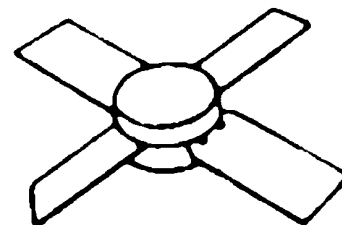
RF & MICROWAVE TRANSISTORS AVIONICS APPLICATIONS

Features

- 1025 – 1150 MHz
- 50 VOLTS
- $P_{OUT} = 90\text{ W}$
- $G_p = 8.4\text{ dB}$ MINIMUM
- INPUT MATCHED
- COMMON BASE CONFIGURATION

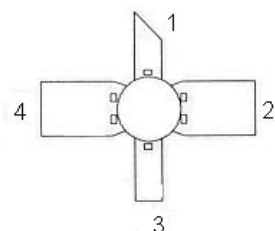
DESCRIPTION:

The SD1536-03 is a gold metallized silicon NPN power transistor designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. Internal Impedance matching provides improved broadband performance.



**.280 4LSL (M115)
hermetically sealed**

PIN CONNECTION



1. COLLECTOR 3. EMITTER
2. BASE 4. BASE

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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector – Base Voltage	65	V
V_{CES}	Collector – Emitter Voltage	65	V
V_{EBO}	Emitter – Base Voltage	3.5	V
I_C	Device Current	10	A
P_{DISS}	Power Dissipation	292	W
T_J	Junction Temperature	+200	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	-65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(J-C)}$	Junction-Case Thermal Resistance	0.60	$^{\circ}\text{C/W}$
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ELECTRICAL SPECIFICATIONS (T_{case} = 25°C)

STATIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	I_C = 10 mA I_E = 0 mA	65	---	---	V
BV_{CER}	I_C = 25 mA R_{BE} = 10 Ω	65	---	---	V
BV_{EBO}	I_E = 1 mA I_C = 0 mA	3.5	---	---	V
I_{CES}	V_{CE} = 50 V I_E = 0 mA	---	---	10	mA
h_{FE}	V_{CE} = 5 V I_C = 100 mA	5	---	---	---

DYNAMIC

Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{OUT}	f = 1025 - 1150MHz P_{IN} = 13.0 W V_{CE} = 50 V	90	---	---	W
G_p	f = 1025 - 1150MHz P_{IN} = 13.0 W V_{CE} = 50 V	8.4	---	---	dB

Conditions: Pulse Width = 10 μSec, Duty Cycle = 1%

This device is suitable for use under other pulse width/duty cycle conditions.

Please contact the factory for specific applications assistance.

IMPEDANCE DATA

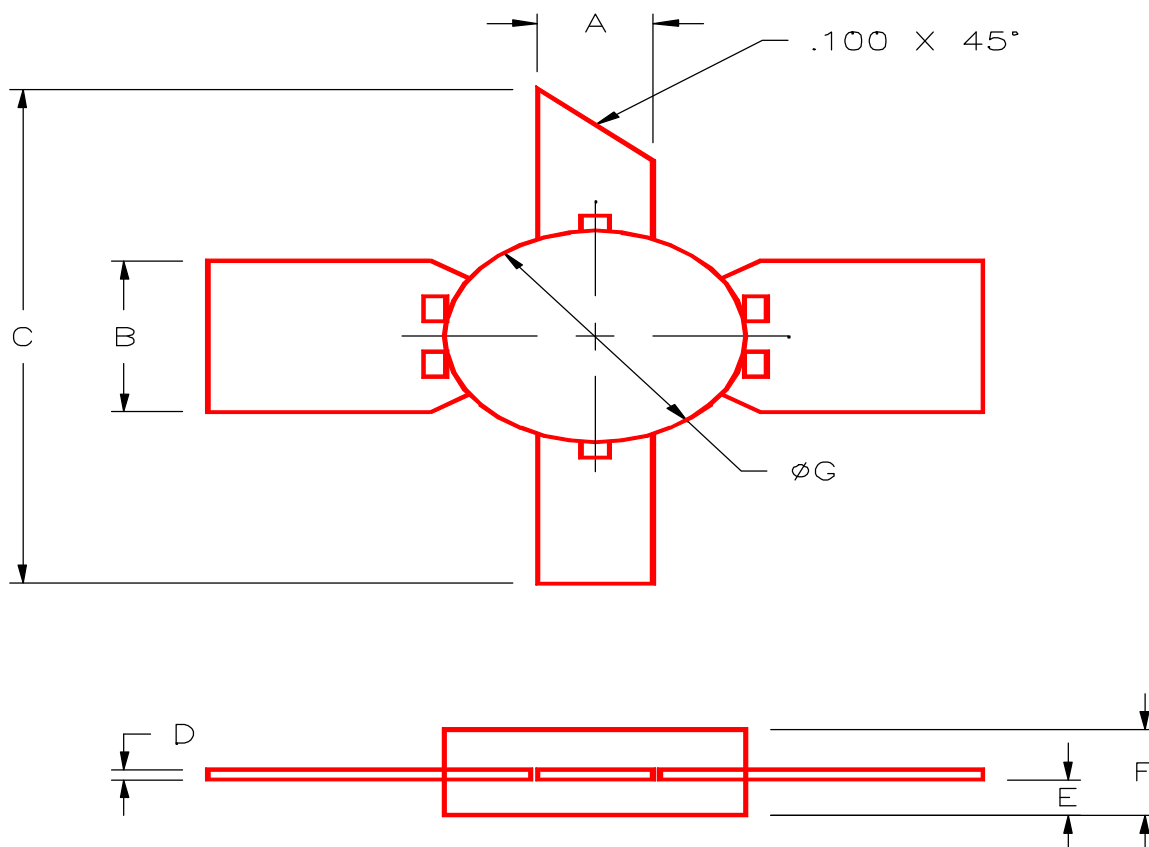
FREQ	Z _{IN} (Ω)	Z _{CL} (Ω)
960 MHz	2.5 + j13.0	4.6 – j5.5
1030 MHz	5.2 + j15.0	5.0 – j5.5
1090 MHz	16.3 + j15.0	4.8 – j5.5
1150 MHz	14.7 + j2.5	4.7 – j7.0
1215 MHz	7.6 + j0.5	4.7 – j5.0

P_{IN} = 13W

V_{CE} = 50 V

PACKAGE MECHANICAL DATA

PACKAGE STYLE M115



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.095/2,41	.105/2,67			
B	.195/4,95	.205/5,21			
C	1.000/25,40				
D	.004/0,10	.007/0,18			
E	.050/1,27	.065/1,65			
F	.120/3,05	.135/3,43			
G	.275/6,99	.285/7,21			