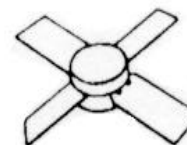


SD1536-03

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

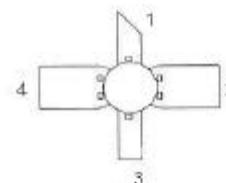


.280 4LSL (M115)
 hermetically sealed

DESCRIPTION:

The SD1536-03 is a gold metalized 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 broad band performance.

PIN CONNECTION



1. COLLECTOR
 2. BASE
 3. EMITTER
 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 (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 10 \text{ mA}$	$I_E = 0 \text{ mA}$	65	---	---	V
BV_{CER}	$I_C = 25 \text{ mA}$	$R_{BE} = 10 \Omega$	65	---	---	V
BV_{EBO}	$I_E = 1 \text{ mA}$	$I_C = 0 \text{ mA}$	3.5	---	---	V
I_{CES}	$V_{CE} = 50 \text{ V}$	$I_E = 0 \text{ mA}$	---	---	10	mA
H_{FE}	$V_{CE} = 5 \text{ V}$	$I_C = 100 \text{ mA}$	10	---	200	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 1025 - 1150 \text{ MHz}$	$P_{IN} = 13.0 \text{ W}$	$V_{CE} = 50 \text{ V}$	90	---	---	W
G_P	$f = 1025 - 1150 \text{ MHz}$	$P_{IN} = 13.0 \text{ W}$	$V_{CE} = 50 \text{ V}$	8.4	---	---	dB
C_{OB}	$V_{CE} = 50 \text{ V}$	$f = 1 \text{ MHz}$		---	---	40	pf
Condition	Pulse Width = 10 μsec Duty Cycle = 1%						

IMPEDANCE DATA

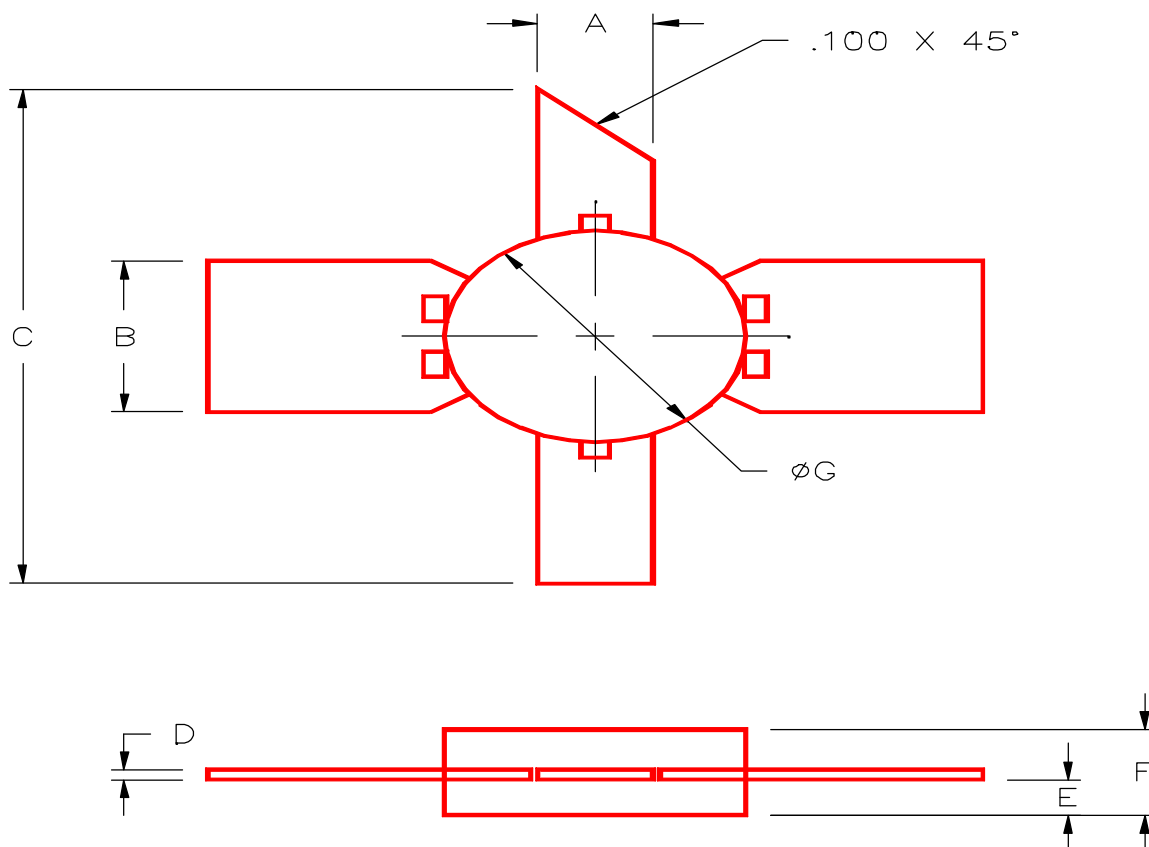
FREQ	$Z_{IN}(\Omega)$	$Z_{CL}(\Omega)$
960 MHz	$2.5 + j13.0$	$4.6 - j5.5$
1030 MHz	$5.2 + j15.0$	$5.0 - j5.5$
1090 MHz	$16.3 + j15.0$	$4.8 - j5.5$
1150 MHz	$14.7 + j2.5$	$4.7 - j7.0$
1215 MHz	$7.6 + j0.5$	$4.7 - j5.0$

$P_{IN} = 13 \text{ W}$

$V_{CE} = 50 \text{ V}$

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			