

SD1511-08

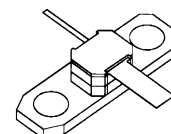
RF & MICROWAVE TRANSISTORS UHF RADAR APPLICATION

Features

- 425 MHz
- 28 VOLTS
- $P_{OUT} = 10$ WATT
- $G_P = 9.2$ dB MINIMUM
- GOLD METALIZATION
- COMMON EMITTER CONFIGURATION

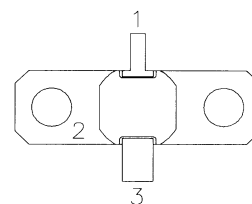
DESCRIPTION:

The SD1511-08 is a gold metalized, silicon NPN power transistor designed for CW and pulsed radar applications in the 400 – 450 MHz frequency range.



.250 SQ. 2LFL (M105)
hermetically sealed

PIN CONNECTION



1. Collector 3. Emitter
2. Base

ABSOLUTE MAXIMUM RATINGS (Tcase = 25°C)

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - Base Voltage	65	V
V_{CEO}	Collector - Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	4.0	v
P_{DISS}	Power Dissipation	58.3	W
I_C	Device Current	2.0	A
T_J	Junction Temperature	+200	°C
T_{STG}	Storage Temperature	-65 to +150	°C

Thermal Data

$R_{TH(J-C)}$	Thermal Resistance Junction-case	3.0	°C/W
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ELECTRICAL SPECIFICATIONS (Tcase = 25°C)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 10mA$	$I_E = 0mA$	65	---	---	V
BV_{EBO}	$I_E = 1mA$	$I_C = 0mA$	4.0	---	---	V
I_{CBO}	$V_{CB} = 30V$	$I_E = 0mA$	---	---	1	mA
HFE	$V_{CE} = 5V$	$I_C = 1mA$	10	---	100	---

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 425\text{ MHz}$	$P_{IN} = 1.2W$	$V_{CE} = 28V$	10	---	---	W
G_P	$f = 425\text{ MHz}$	$P_{IN} = 1.2W$	$V_{CE} = 28V$	9.2	---	---	dB
η_C	$f = 425MHz$	$P_{IN} = 1.2W$	$V_{CE} = 28V$	50	---	---	%

IMPEDANCE DATA:

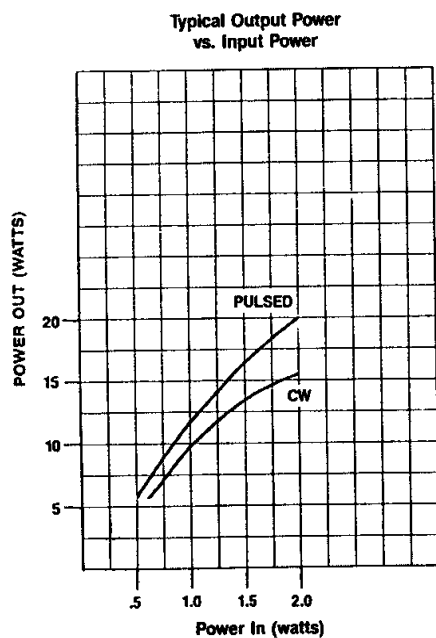
FREQUENCY	Z_{in}	Z_{cl}
400 MHz	$1.4 + j1.0$	$16 - j4.0$
425 MHz	$1.4 + j1.2$	$17 - j4.0$
450 MHz	$1.5 + j1.1$	$19 - j4.0$

$P_{IN} = 1.2W$

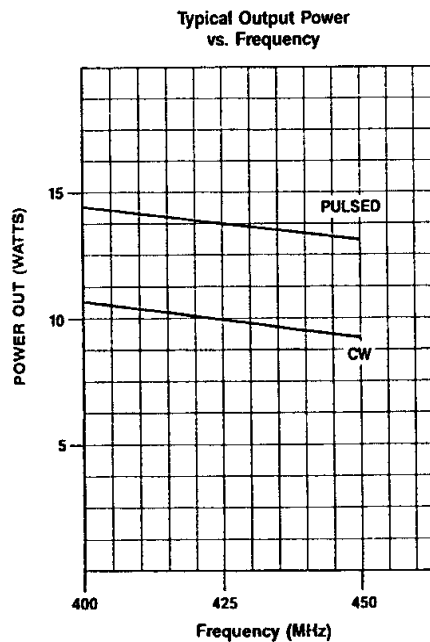
$V_{CC} = 28V$

TYPICAL PERFORMANCE

POWER OUTPUT vs POWER INPUT

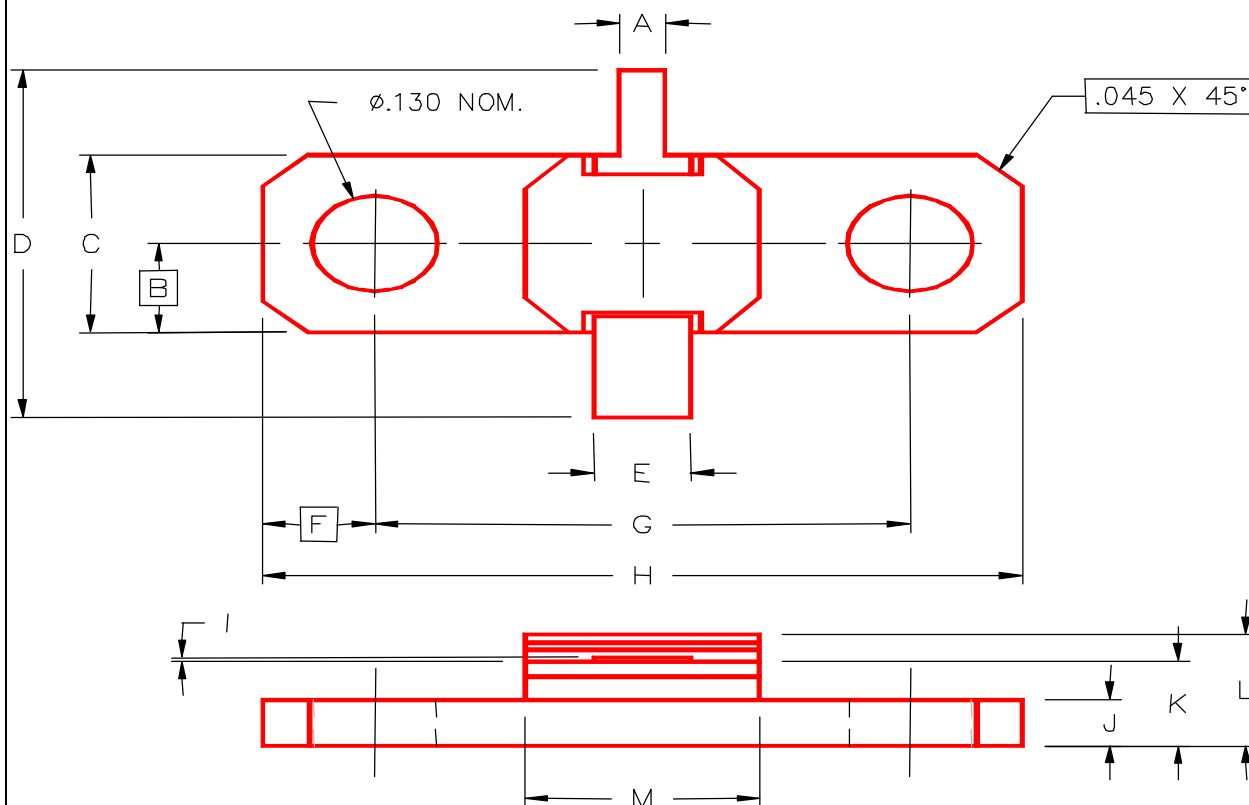


POWER OUTPUT vs FREQUENCY



PACKAGE MECHANICAL DATA

PACKAGE STYLE M105



	MINIMUM INCHES/MM	MAXIMUM INCHES/MM		MINIMUM INCHES/MM	MAXIMUM INCHES/MM
A	.045/1,14	.055/1,40	I	.002/0,05	.006/0,15
B	.125/3,18		J	.057/1,45	.067/1,70
C	.245/6,22	.255/6,48	K	.112/2,84	.132/3,35
D	1.235/31,37		L		.175/4,45
E	.095/2,41	.105/2,67	M	.245/6,48	.405/10,29
F	.120/3,05				
G	.557/14,15	.567/14,40			
H	.795/20,19	.805/20,45			