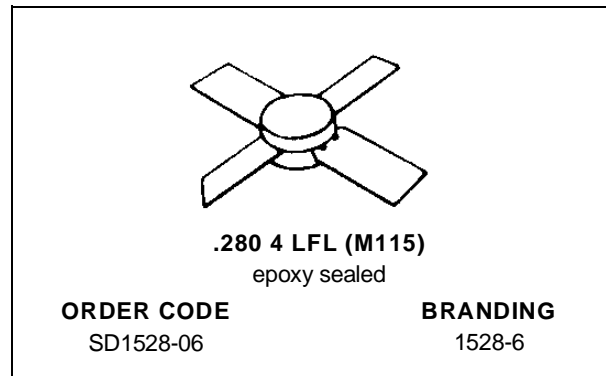
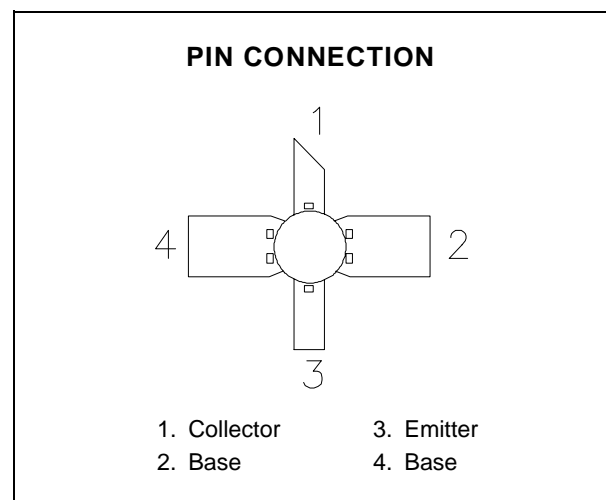


**RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS**

- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 20 W (typ.) IFF 1030 - 1090 MHz
- 15 W (min.) DME 1025 - 1150 MHz
- 15 W (typ.) TACAN 960 - 1215 MHz
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTED AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 20:1 LOAD VSWR CAPABILITY @ SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION


DESCRIPTION

The SD1528-06 is a gold metallized epitaxial silicon NPN power transistor. The SD1528-06 is designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1528-06 is packaged in the .280" input matched stripline package, resulting in improved broadband performance and low thermal resistance.


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

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	1.5	A
P_{DISS}	Power Dissipation	87.5	W
T_J	Junction Temperature	+200	$^{\circ}C$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}C$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.0	$^{\circ}C/W$
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ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 10mA$	$I_E = 0mA$	65	—	—	V
BV_{CES}	$I_C = 25mA$	$V_{BE} = 0V$	65	—	—	V
BV_{EBO}	$I_E = 1mA$	$I_C = 0mA$	3.5	—	—	V
I_{CES}	$V_{CE} = 50V$	$I_E = 0mA$	—	—	2	mA
h_{FE}	$V_{CE} = 5V$	$I_C = .1A$	10	—	200	—

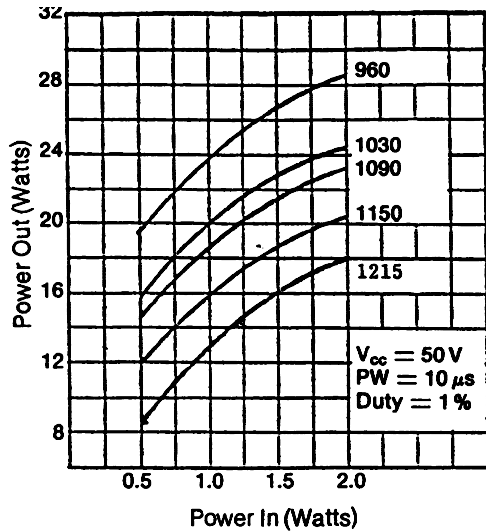
DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{OUT}	$f = 1025 - 1150MHz$	$P_{IN} = 1.5 W$ $V_{CE} = 50 V$	15	—	—	W
G_P	$f = 1025 - 1150MHz$	$P_{IN} = 1.5 W$ $V_{CE} = 50 V$	10	—	—	dB
η_c	$f = 1025 - 1150MHz$	$P_{IN} = 1.5 W$ $V_{CE} = 50 V$	30	—	—	%

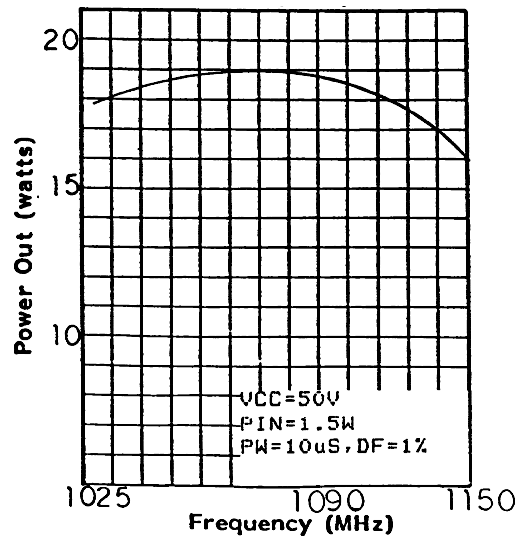
Note: Pulse Width = 10 μ sec, Duty Cycle = 1%

TYPICAL PERFORMANCE

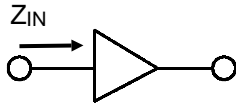
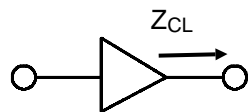
POWER OUTPUT vs POWER INPUT



POWER OUTPUT vs FREQUENCY



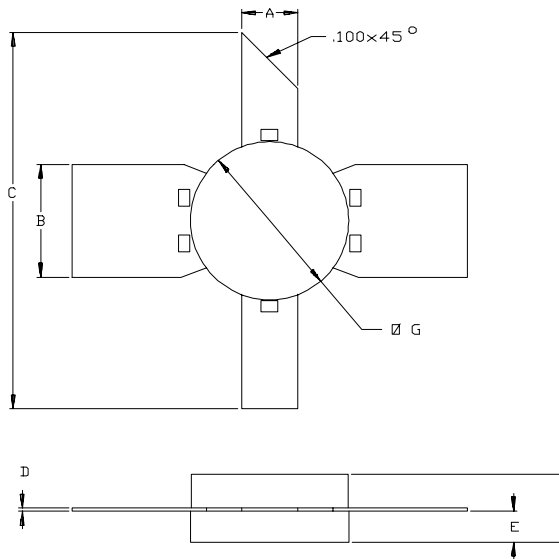
IMPEDANCE DATA

TYPICAL INPUT
IMPEDANCETYPICAL COLLECTOR
LOAD IMPEDANCE

FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
960 MHz	$2.5 + j 12.5$	$17.0 + j 15.5$
1030 MHz	$3.5 + j 12.5$	$17.0 + j 14.5$
1090 MHz	$3.0 + j 13.5$	$19.5 + j 12.5$
1150 MHz	$3.5 + j 14.0$	$18.0 + j 12.0$
1215 MHz	$5.0 + j 17.0$	$16.0 + j 12.0$

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0115



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	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		.145/3,68
G	.275/6,99	.285/7,21

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