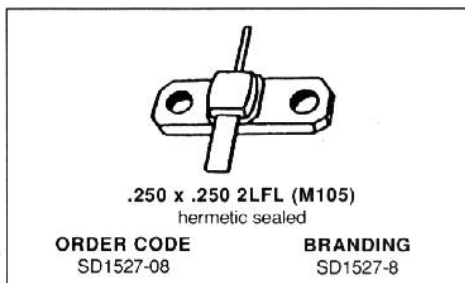


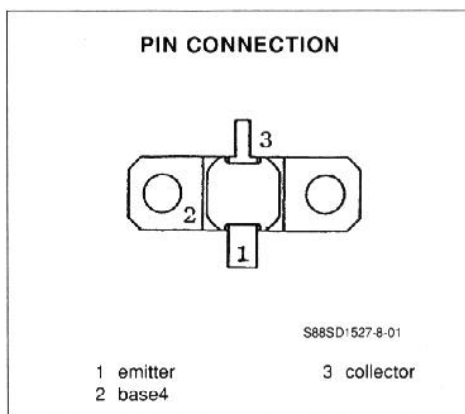
**RF & MICROWAVE TRANSISTORS  
IFF/DME APPLICATIONS**

- DESIGNATED FOR HIGH POWER PULSE IFF AND TACAN
- 5.0 WATTS (min.) IFF 1030-1090MHz
- 4.0 WATTS (typ.) TACAN 960-1215MHz
- GREATER THAN 11.5dB GAIN
- REFRACTORY BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE LOAD - VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION



**DESCRIPTION**

The SD1527-8 is a gold metallized, silicon NPN power transistor. The SD1527-8 is designed for applications requiring peak power and low duty cycles such as IFF, DME, TACAN. The SD1527-8 is packaged in the .250" input matched hermetic stripline flange package resulting in improved broadband performance and a low thermal resistance.



**ABSOLUTE MAXIMUM RATINGS (T<sub>case</sub> = 25°C)**

Symbol	Parameter	Value	Unit
V <sub>CBO</sub>	Collector - Base Voltage	80.0	V
V <sub>CES</sub>	Collector - Emitter Voltage	80.0	V
V <sub>EBO</sub>	Emitter - Base Voltage	3.5	V
I <sub>C</sub>	Collector Current (max.)	1.0	A
P <sub>TOT</sub>	Total Device Dissipation at + 25°C	21.9	W
T <sub>STG</sub>	Storage Temperature	- 65 to + 200	°C
T <sub>J</sub>	Junction Temperature	+ 200	°C

**THERMAL DATA**

R <sub>TH(J-C)</sub>	Junction-case Thermal Resistance	8.0	°C/W
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**SD1527-8**

**ELECTRICAL CHARACTERISTICS** ( $T_{case} = 25^{\circ}C$ )

**STATIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CEO}$	$I_C = 10mA$	$I_B = 0$	80.0			V
$BV_{CES}$	$I_C = 25mA$	$V_{BE} = 0$	80.0			V
$BV_{EBO}$	$I_E = 10mA$	$I_C = 0$	3.5			V
$I_{CES}$	$V_{CB} = 50.0V$	$V_{BE} = 0$			1.0	mA

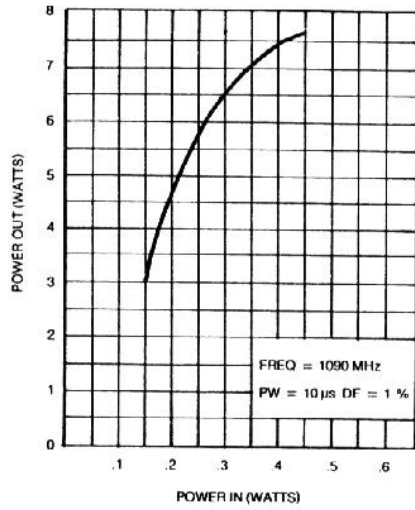
**DYNAMIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_O^{**}$	$f = 1090MHz$	$V_{CE} = 50.0V$	5.0			W
$P_G$	$f = 1090MHz$	$V_{CE} = 50.0V$	11.5			dB
$P_o^{**}$	$f = 1090MHz$	$V_{CE} = 28.0V$		4.0		W
$P_g$	$f = 1090MHz$	$V_{CE} = 28.0V$		9.0		dB
$P_o^{***}$	$f = 960/1215MHz$	$V_{CE} = 28.0V$		4.0		W
$P_g$	$f = 960/1215MHz$	$V_{CE} = 28.0V$		8.0		dB
$Z_{in}$	$f = 1090MHz$	$V_{CE} = 50.0V$		$3.6 - j2.9$		$\Omega$
$Z_{cl}$	$f = 1090MHz$	$V_{CE} = 50.0V$		$4.7 + j17.5$		$\Omega$

\*\* Pulse width 10 $\mu$ s, duty cycle 1%.

\*\*\* Pulse width 10 $\mu$ s, duty cycle 10%.

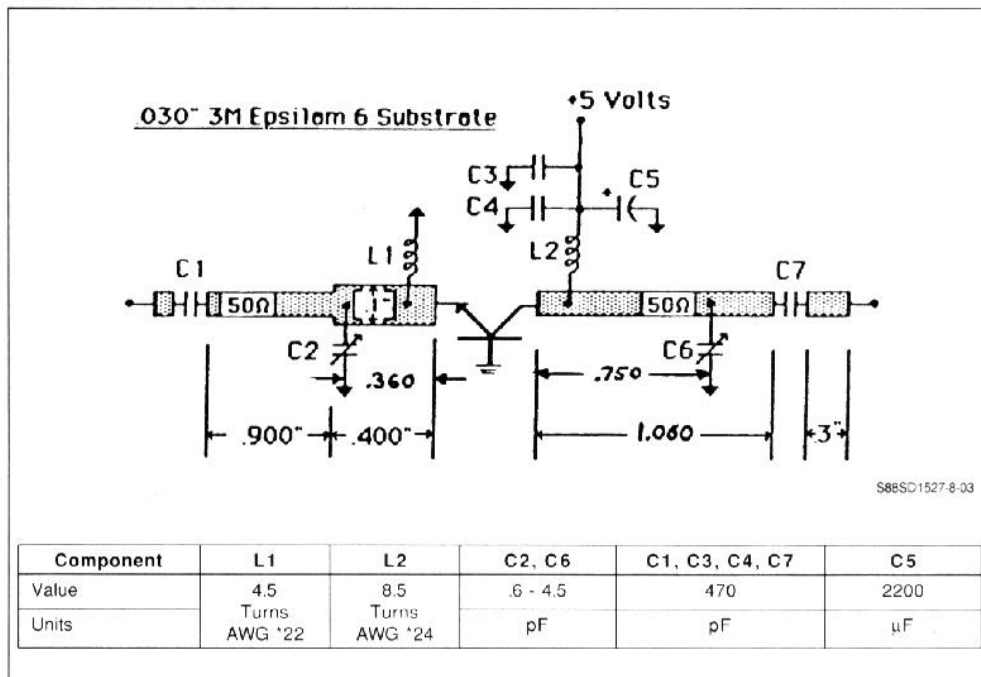
TYPICAL POWER OUT vs. POWER IN



S88SD1527-8-02

CIRCUIT DIAGRAM

1025 - 1150 WIDE BAND

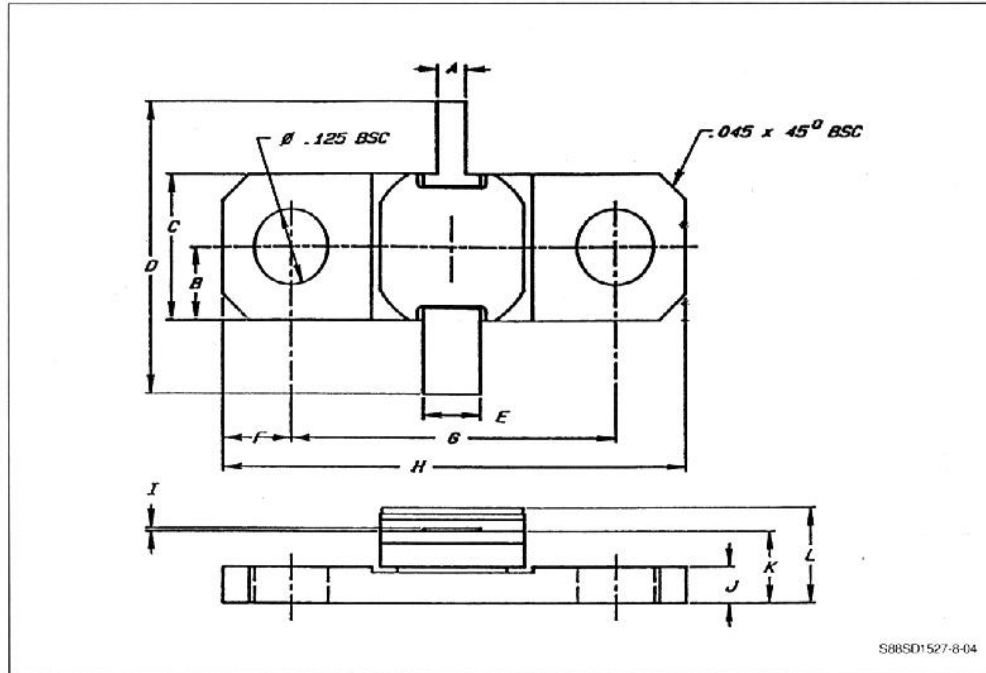


S88SD1527-8-03

**SD1527-8**

**PACKAGE MECHANICAL DATA**

.250 x .250 2LFL



S88SD1527-8-04

	Minimum Inches/mm	Maximum Inches/mm
A	.045/1.14	.055/1.40
B	.125/3.18 BSC	
C	.245/6.22	.255/6.48
D	1.235/31.37	
E	.095/2.41	.105/2.67
F	.119/3.02 BSC	

	Minimum Inches/mm	Maximum Inches/mm
G	.557/14.15	.567/14.40
H	.795/20.19	.805/20.45
I	.002/0.05	.006/0.15
J	.057/1.45	.067/1.70
K	.112/2.84	.132/3.35
L		.175/4.45