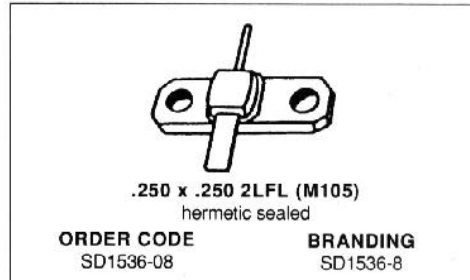


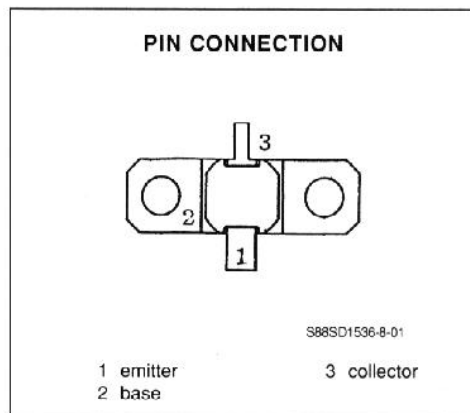
**RF & MICROWAVE TRANSISTORS
IFF/DME APPLICATIONS**

- DESIGNATED FOR HIGH POWER PULSE IFF, DME TACAN
- 100 WATTS (typ.) IFF 1030-1090MHz
- 90 WATTS (min.) DME 1025-1150MHz
- 90 WATTS (typ.) TACAN 960-1215MHz
- GREATER THAN 8.8dB GAIN
- REFRACTORY GOLD METALLIZATION
- BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 20:1 LOAD — VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION



DESCRIPTION

The SD1536-8 is a gold metallized, silicon NPN power transistor. The SD1536-8 is designed for applications requiring high peak power and low duty cycles such as IFF, DME, and TACAN. The SD1536-8 is packaged in the .250" input matched hermetic stripline flange package resulting in improved broadband performance and a low thermal resistance.



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

Symbol	Parameter	Value	Unit
V_{CBO}	Collector - Base Voltage	65.0	V
V_{CEO}	Collector - Emitter Voltage	65.0	V
V_{EBO}	Emitter - Base Voltage	3.5	V
I_C	Collector Current (max.)	10.0	A
P_{TOT}	Total Device Dissipation at + 25°C	292.0	W
T_{STG}	Storage Temperature	- 65 to + 200	°C
T_J	Junction Temperature	+ 200	°C

THERMAL DATA

$R_{TH(J-C)}$	Junction-case Thermal Resistance	.60	°C/W
---------------	----------------------------------	-----	------

SD1536-8**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

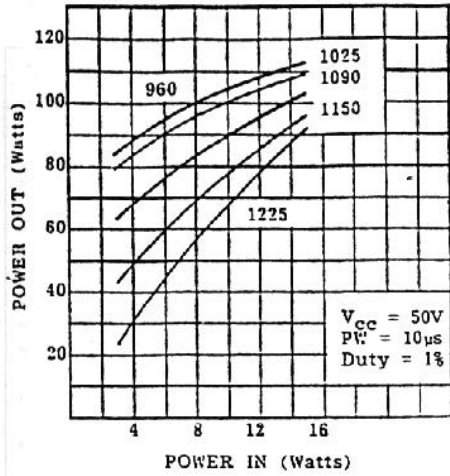
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 10\text{mA}$	$I_{\text{B}} = 0$	65.0			V
BV_{CES}	$I_{\text{C}} = 25\text{mA}$	$V_{\text{BE}} = 0$	65.0			V
BV_{EBO}	$I_{\text{E}} = 10\text{mA}$	$I_{\text{C}} = 0$	3.5			V
I_{CES}	$V_{\text{CE}} = 50.0\text{V}$	$V_{\text{BE}} = 0$			10.0	mA

DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{O}^{**}	$f = 1090\text{MHz}$	$V_{\text{CC}} = 50.0\text{V}$	$P_{\text{i}} = 13\text{W}$		100.0		W
P_{G}	$f = 1090\text{MHz}$	$V_{\text{CC}} = 50.0\text{V}$	$P_{\text{i}} = 13\text{W}$		8.8		dB
P_{O}^{**}	$f = 1025/1150\text{MHz}$	$V_{\text{CC}} = 50.0\text{V}$	$P_{\text{i}} = 13\text{W}$	90.0	95.0		W
P_{g}	$f = 1025/1150\text{MHz}$	$V_{\text{CC}} = 50.0\text{V}$	$P_{\text{i}} = 13\text{W}$	8.4	8.6		dB
P_{O}^{***}	$f = 960/1215\text{MHz}$	$V_{\text{CC}} = 50.0\text{V}$	$P_{\text{i}} = 13\text{W}$		90.0		W
P_{g}	$f = 960/1215\text{MHz}$	$V_{\text{CC}} = 50.0\text{V}$	$P_{\text{i}} = 13\text{W}$		8.4		dB

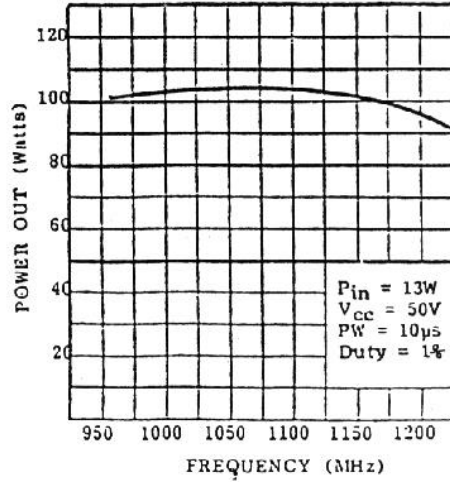
** Pulse width 10 μs , duty cycle 1%.*** Pulse width 10 μs , duty cycle 10%.

TYPICAL POWER OUT vs. POWER IN



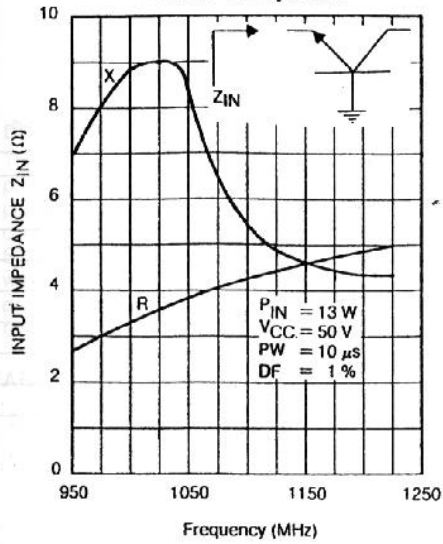
S88SD1536-8-02

TYPICAL POWER OUT vs. FREQUENCY



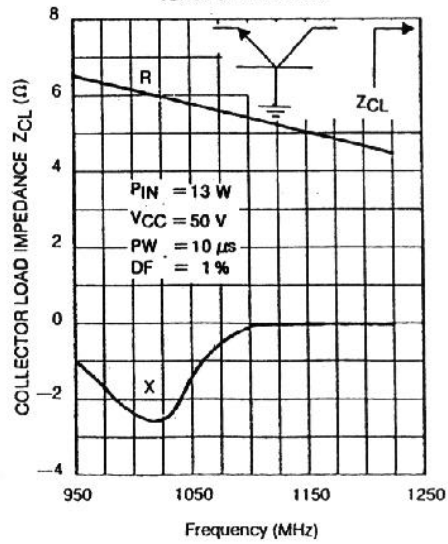
S88SD1536-8-03

TYPICAL INPUT IMPEDANCE VERSUS FREQUENCY



S88SD1536-8-04

TYPICAL COLLECTOR LOAD IMPEDANCE VERSUS FREQUENCY

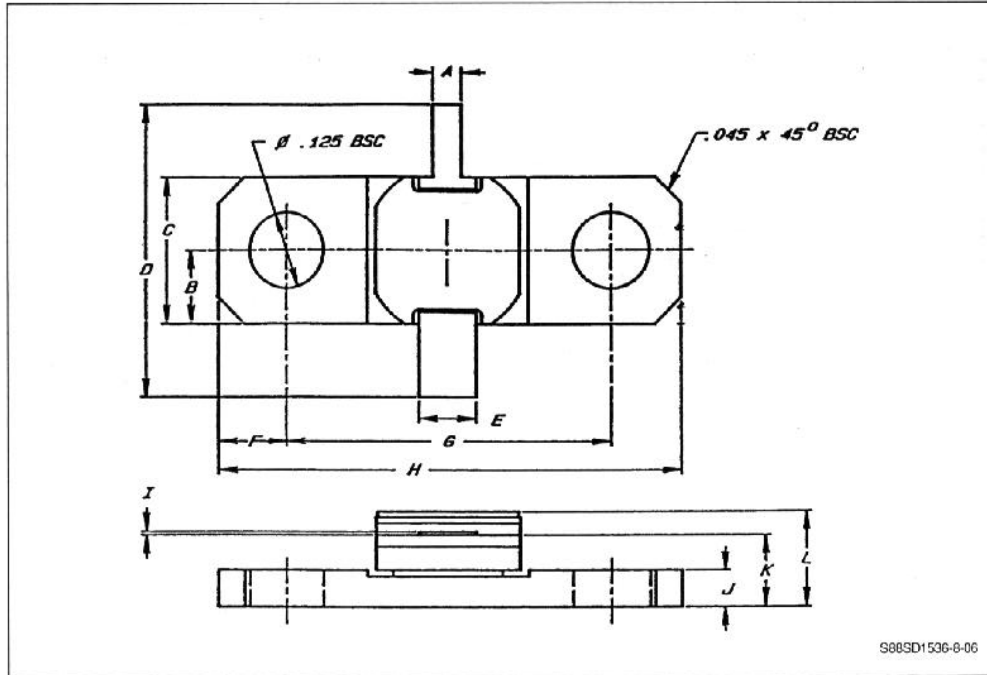


S88SD1536-8-05

SD1536-8

PACKAGE MECHANICAL DATA

.250 x .250 2LFL



	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