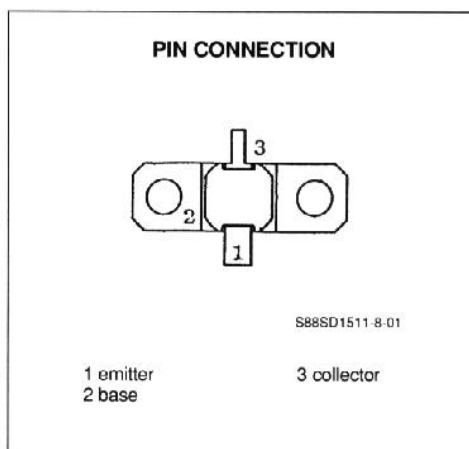
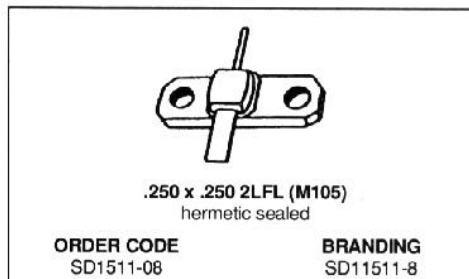


**RF & MICROWAVE TRANSISTORS
UHF PULSE POWER**

- COMMON EMITTER
- 12W TYPICAL CW
- 15W TYPICAL PULSED
- GOLD METALLIZATION
- EMITTER BALLAST
- 30:1 LOAD VSWR CAPABILITY



DESCRIPTION

- Gold Metallized Silicon NPN
- For 28V CW and Pulsed Radar Application

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	4	V
I_C	Collector Current (max.)	2	A
P_{TOT}	Total Device Dissipation at + 25°C	58.3	W
T_{STG}	Storage Temperature	- 65 to + 150	°C
T_J	Junction Temperature	+ 200	°C

THERMAL DATA

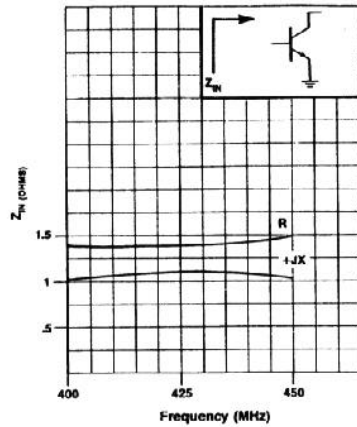
$R_{TH(J-C)}$	Junction-Case Thermal Resistance	3	°C/W
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ELECTRICAL CHARACTERISTICS ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

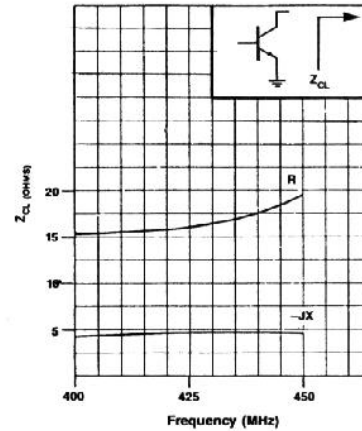
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 10\text{mA}$	65			V
BV_{EBO}	$I_{\text{E}} = 1\text{mA}$	4			V
I_{CBO}	$V_{\text{CB}} = 30\text{V}$			1	mA
h_{FE}	$V_{\text{CE}} = 5\text{V}$ $I_{\text{C}} = 1\text{A}$	10		100	

DYNAMIC

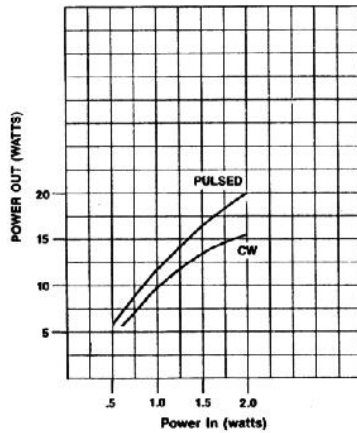
Symbol	Test Conditions	Value			Unit
		Min.	Typ.	Max.	
P_{out}	$f = 425\text{MHz}$ $V_{\text{CC}} = 28\text{V}$ $P_{\text{in}} = 1.2\text{W}$	10	12		W
P_{GAIN}	$f = 425\text{MHz}$ $V_{\text{CC}} = 28\text{V}$ $P_{\text{in}} = 1.2\text{W}$	9.2	10		dB
η_{c}	$f = 425\text{MHz}$ $V_{\text{CC}} = 28\text{V}$ $P_{\text{out}} = 10\text{W}$	50	55		%

Typical Input Impedance
vs. Frequency

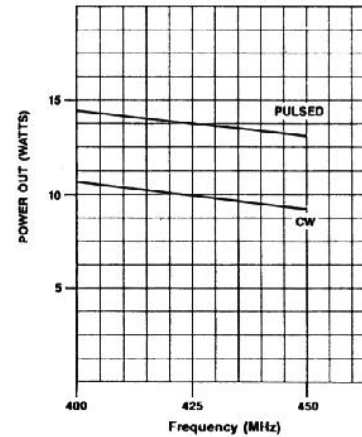
S88SD1511-8-02

Typical Collector Load Impedance
vs. Frequency

S88SD1511-8-03

Typical Output Power
vs. Input Power

S88SD1511-8-04

Typical Output Power
vs. Frequency

S88SD1511-8-05

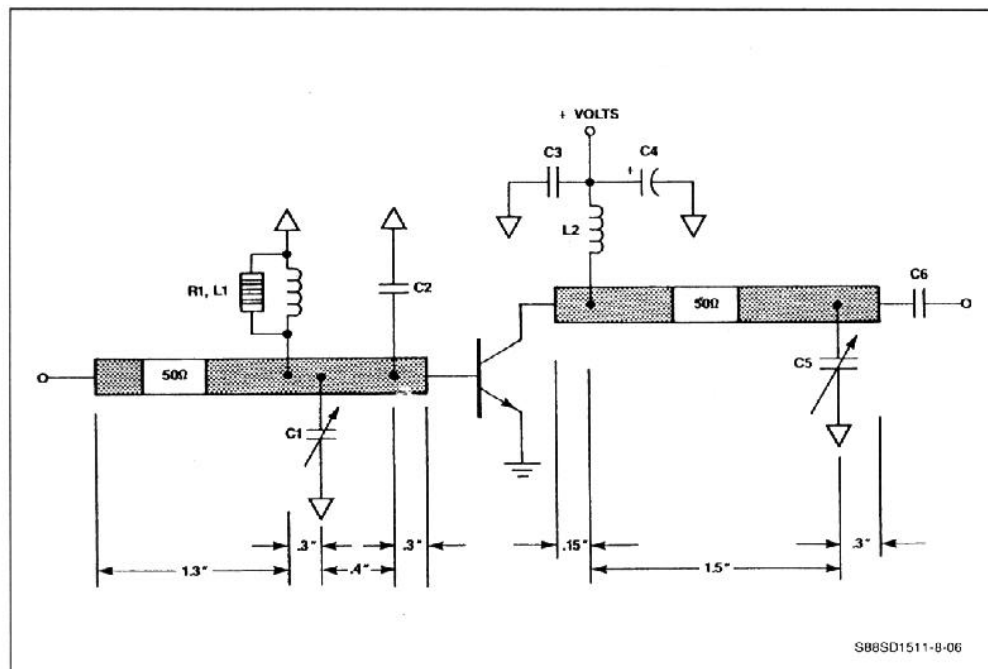
Pulse Conditions

Pulse width = $250\mu s$

Duty Factor = 10%

TEST CIRCUIT 425MHz WIDEBAND

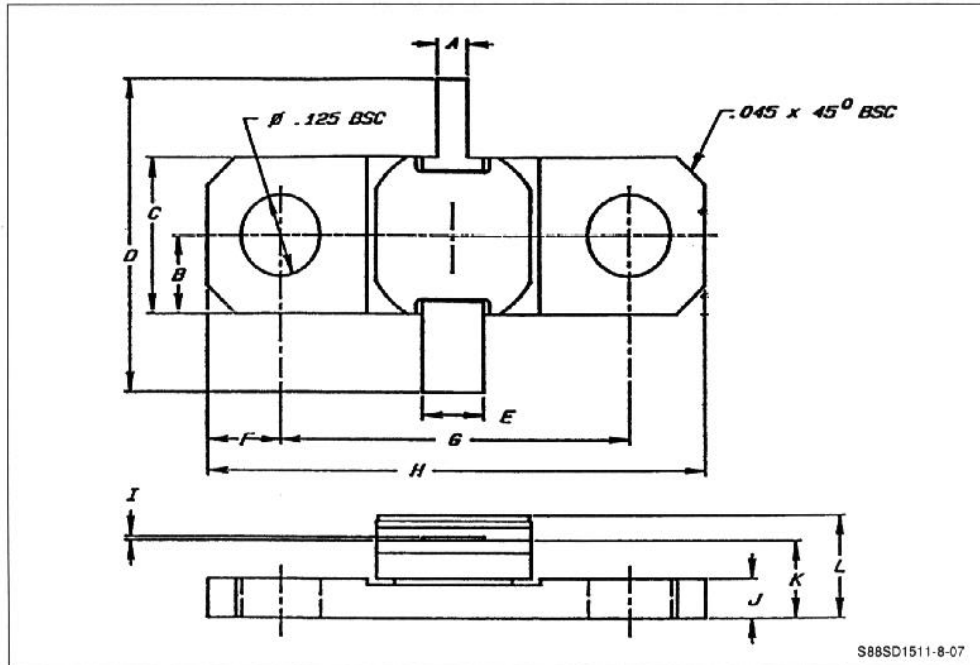
.030 " 3M EPSILAM 6 SUBSTRATE



Component	L1	L2	R1	C1, C5	C2	C3, C6	C4
Value	12.5 Turns	AWG # 18 Hairpin L = 1"	1000	6-12	33	470	1000
Units	AWG # 24		Ω	pF	pF	pF	μ F

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