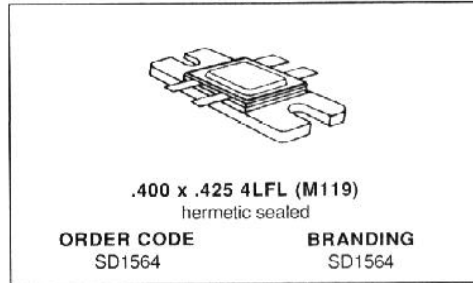


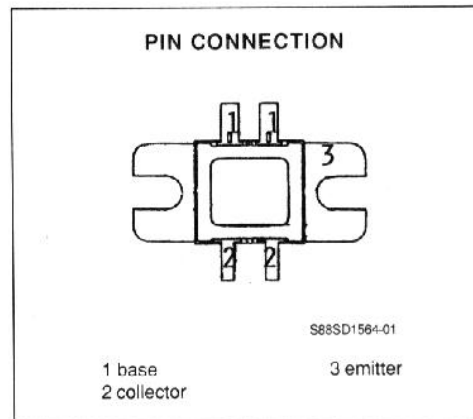
RF & MICROWAVE TRANSISTORS
UHF PULSE POWER

- DESIGNED FOR HIGH POWER PULSE APPLICATIONS
- 400W AT 60µs PULSE WIDTH, 2% D.F.
- GREATER THAN 7.5dB GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 30:1 VSWR CAPABILITY AT RATED OPERATING CONDITIONS
- INPUT MATCHED, COMMON EMITTER CONFIGURATION
- BALANCED CONFIGURATION
- HERMETIC PACKAGE



DESCRIPTION

The SD1564 is a hermetically sealed, gold metallized silicon NPN pulse power transistor, mounted in a common emitter balanced configuration. The SD1564 is designed for applications requiring high peak power and low duty cycles within the frequency range of 400-450MHz.



ABSOLUTE MAXIMUM RATINGS (T_{case} = 25°C)

Symbol	Parameter	Value	Unit
V _{CB0}	Collector - Base Voltage	65.0	V
V _{CES}	Collector - Emitter Voltage	65.0	V
V _{EBO}	Emitter - Base Voltage	3.5	V
I _C	Collector Current (max.)	28.8	A
P _{TOT}	Total Device Dissipation at + 25°C	1167.0	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	0.15	°C/W
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SD1564

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

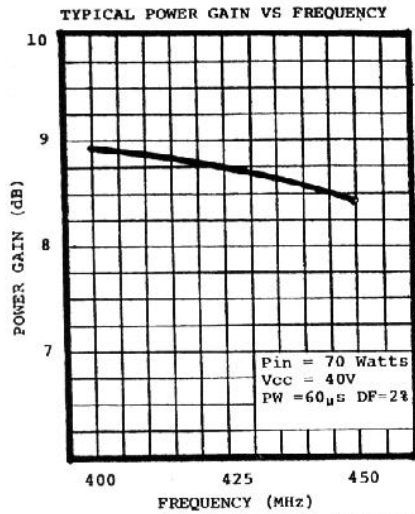
STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_C = 25mA$	$I_E = 0$	65.0			V
BV_{CES}	$I_C = 10mA$	$V_{BE} = 0$	65.0			V
BV_{EBO}	$I_E = 5mA$	$I_C = 0$	3.5			V
I_{CES}	$V_{CE} = 40.0V$	$V_{BE} = 0$			20.0	mA
h_{FE}	$V_{CE} = 5.0V$	$I_C = 500mA$	20.0		120.0	

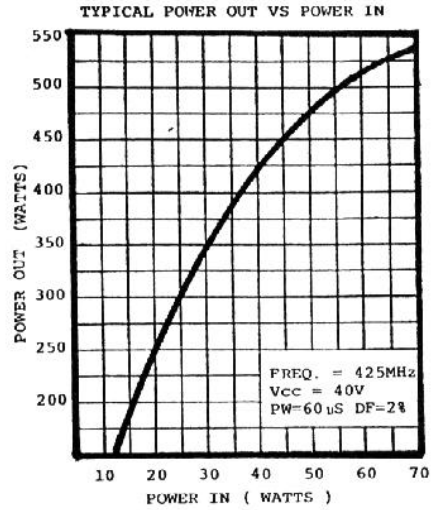
DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_O^*	$f = 425MHz$	$V_{CC} = 40.0V$	$P_i = 70W$	400.0			W
P_G	$f = 425MHz$	$V_{CC} = 40.0V$	$P_i = 70W$	7.5	8.5		dB
η_C	$f = 425MHz$	$V_{CC} = 40.0V$	$P_i = 70W$	50.0	55.0		%
VSWR**	$f = 425MHz$	$V_{CC} = 40.0V$	$P_i = 70W$		30:1		

* Pulse width 60 μ s, duty cycle 2%.
 ** All phase Angles.

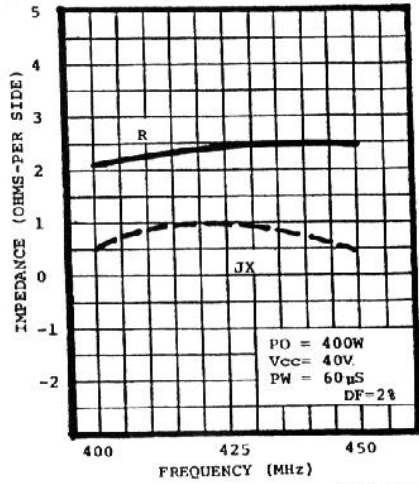


S88SD1564-02



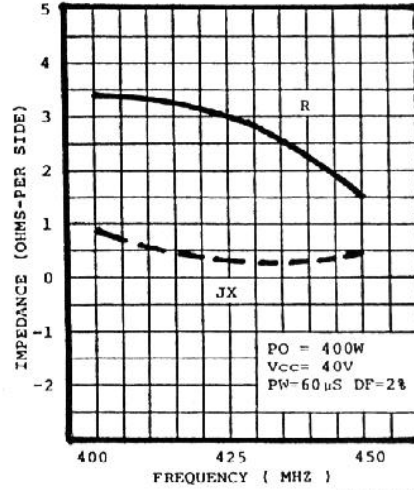
S88SD1564-03

TYPICAL OUTPUT IMPEDANCE VS FREQUENCY



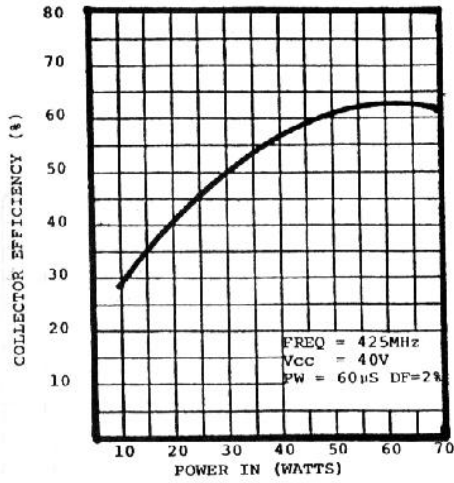
S88SD1564-04

TYPICAL INPUT IMPEDANCE VS FREQUENCY



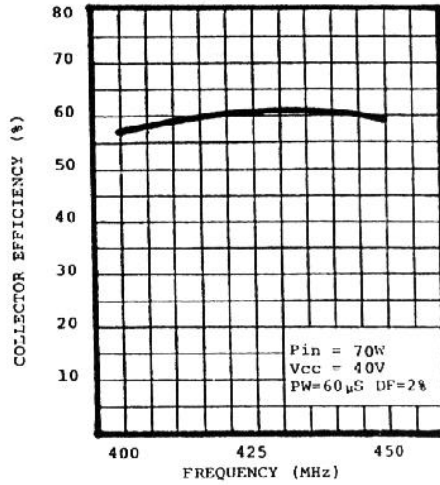
S88SD1564-05

TYPICAL EFFICIENCY VS POWER IN



S88SD1564-06

TYPICAL EFFICIENCY VS FREQUENCY

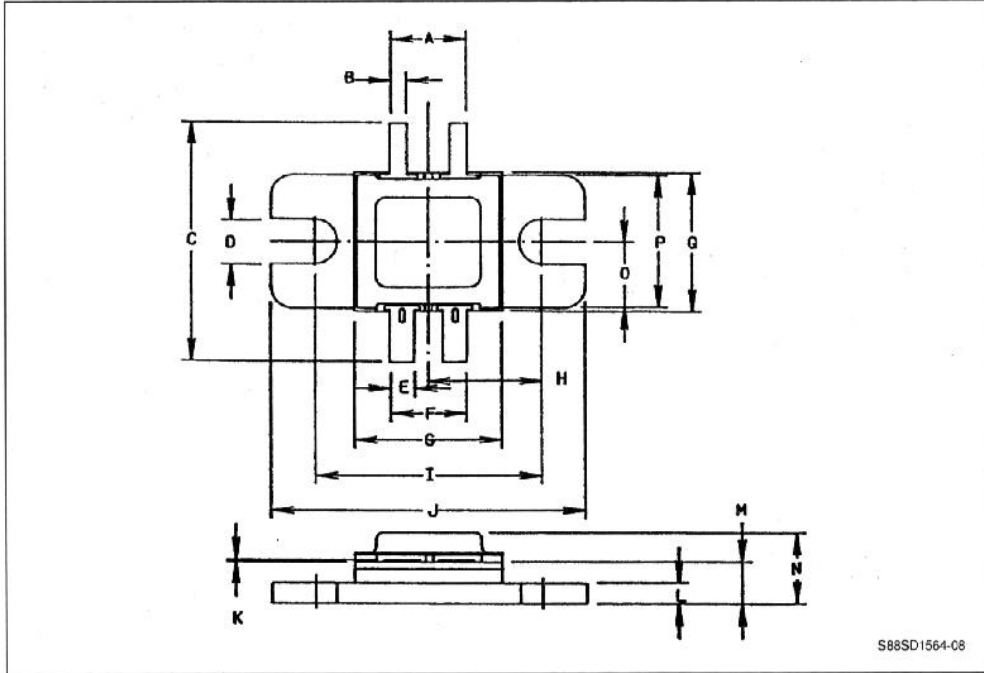


S88SD1564-07

SD1564

PACKAGE MECHANICAL DATA

.400 x .425 4LFL



	Minimum Inches/mm	Maximum Inches/mm
A	.210/5.33	.230/5.84
B	.045/1.14	.055/1.40
C	1.15/29.2	1.17/29.72
D	.130/3.30 BSC	
E	.070/1.78	.080/2.03
F	.215/5.46	.235/5.97
G	.420/10.67	.430/10.93
H	.325/8.26 BSC	
I	.650/16.51 BSC	

	Minimum Inches/mm	Maximum Inches/mm
J	.895/22.73	.905/22.99
K	.002/0.05	.006/0.15
L	.058/1.47	.065/1.65
M	.115/2.92	.130/3.30
N		.230/5.84
O	.190/4.83	.195/4.95
P	.380/9.65	.390/9.91
Q	.395/10.03	.405/10.29