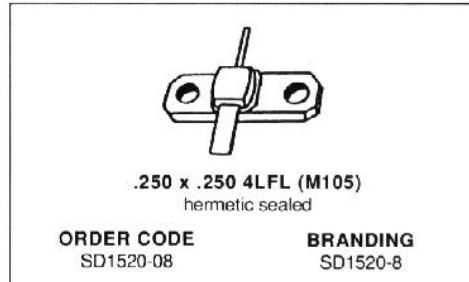


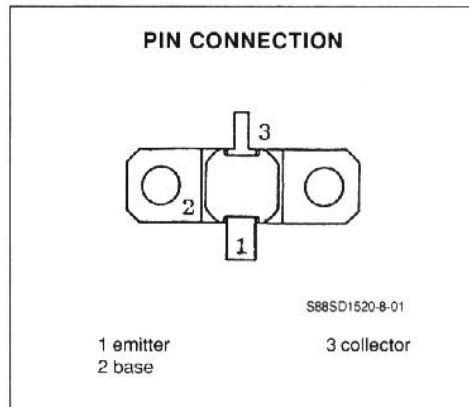
**RF & MICROWAVE TRANSISTORS  
 IFF/DME APPLICATIONS**

- DESIGNED FOR PULSE POWER IFF, DME, TACAN
- 0.25 WATT (typ) IFF 1030-1090MHz
- 0.20 WATT (min.) DME 1025-1150MHz
- 0.15 WATT (typ) TACAN 960-1215MHz
- GREATER THAN 9.5dB GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE LOAD — VSWR CAPABILITY AT SPECIFIC OPERATING CONDITIONS
- INPUT MATCHED, COMMON EMITTER



**DESCRIPTION**

The SD1520-8 is a gold metallized, silicon NPN pulsed power transistor. The SD1520-8 is designed for Class A operation at IFF, DME, and TACAN frequencies. The SD1520-8 is packaged in the .250" input matched hermetic stripline flange 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	50.0	V
$V_{CEO}$	Collector - Emitter Voltage	20.0	V
$V_{EBO}$	Emitter - Base Voltage	3.5	V
$I_C$	Collector Current (max.)	0.25	A
$P_{TOT}$	Total Device Dissipation at + 25°C	5.8	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	30.0	°C/W
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**SD1520-8**

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CEO}$	$I_C = 5mA$	$I_B = 0$	20.0			V
$BV_{CBO}$	$I_C = 1mA$	$V_{BE} = 0$	50.0			V
$BV_{EBO}$	$I_E = 1mA$	$I_C = 0$	3.5			V
$I_{CES}$	$V_{CB} = 28.0V$	$V_{BE} = 0$			1.0	mA
$h_{FE}$	$V_{CE} = 5.0V$	$I_C = 100mA$		55.0		

DYNAMIC

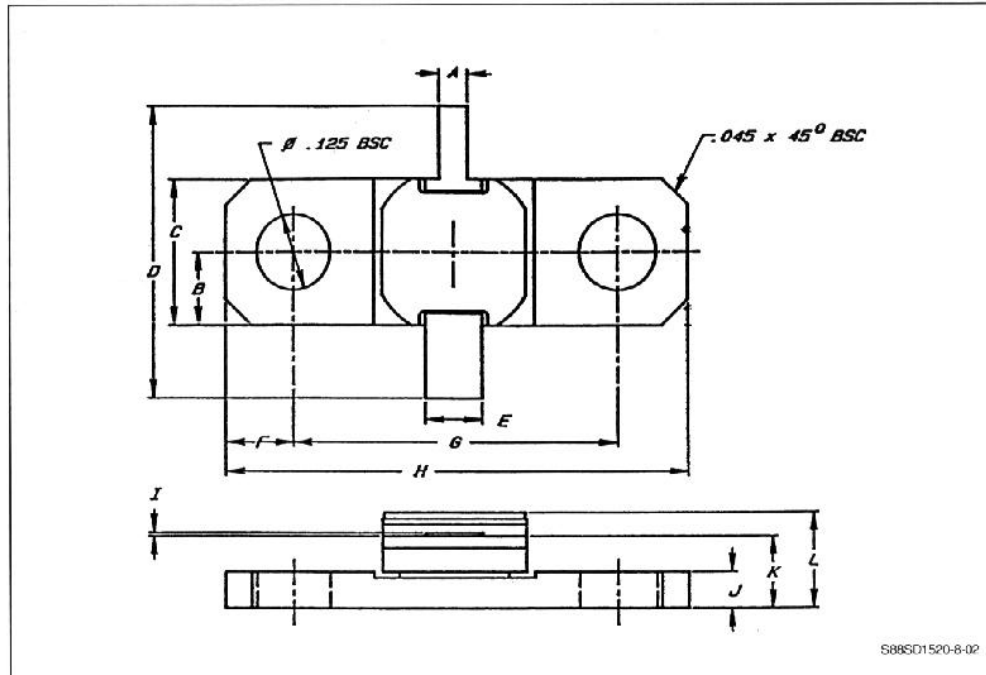
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_O^{**}$	$f = 1090MHz$	$V_{CE} = 28.0V$		0.25		W
$P_G$	$f = 1090MHz$	$V_{CE} = 28.0V$		9.5		dB
$P_o^{**}$	$f = 1025/1150MHz$	$V_{CE} = 28.0V$	0.20			W
$P_g$	$f = 1025/1150MHz$	$V_{CE} = 28.0V$	9.0			dB
$P_o^{***}$	$f = 960/1215MHz$	$V_{CE} = 28.0V$		0.15		W
$P_g$	$f = 960/1215MHz$	$V_{CE} = 28.0V$		8.5		dB

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

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

## 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