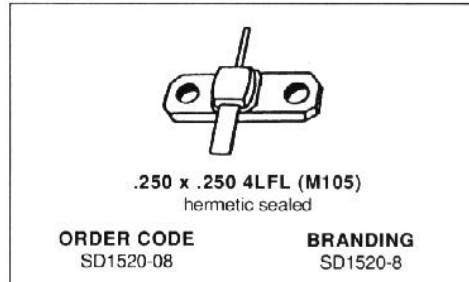


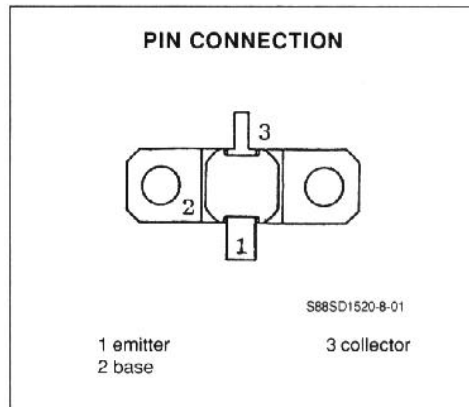
**RF & MICROWAVE TRANSISTORS
 IFF/DME APPLICATIONS**

- 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
---------------	----------------------------------	------	------

SD1520-8**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)

STATIC

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

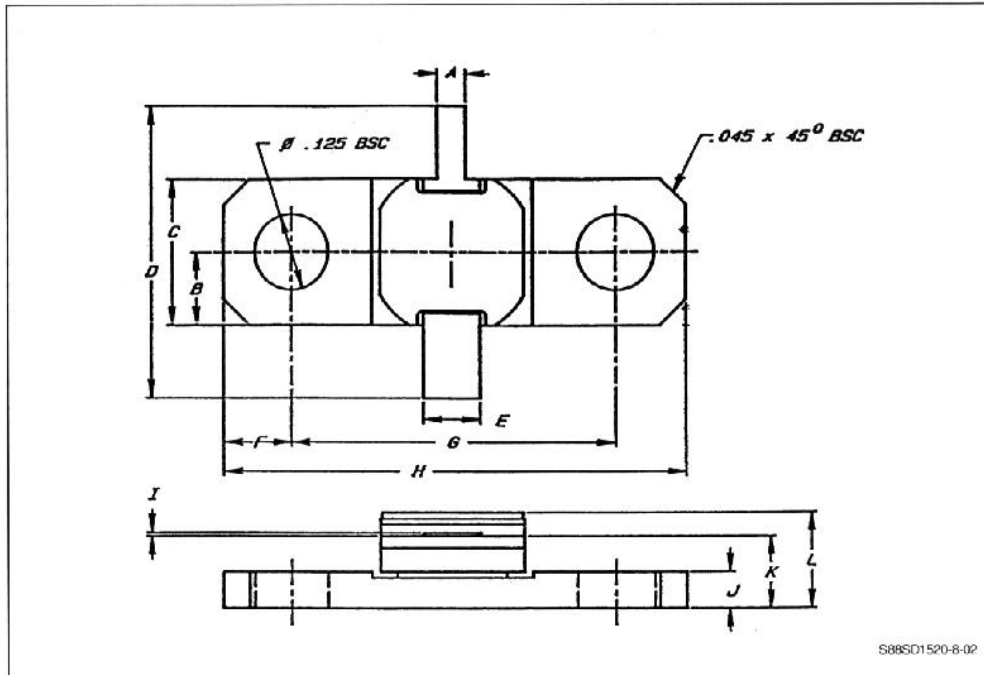
DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{O}^{**}	$f = 1090\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		0.25		W
P_{G}	$f = 1090\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		9.5		dB
P_{O}^{**}	$f = 1025/1150\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$	0.20			W
P_{g}	$f = 1025/1150\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$	9.0			dB
P_{O}^{***}	$f = 960/1215\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		0.15		W
P_{g}	$f = 960/1215\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		8.5		dB

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