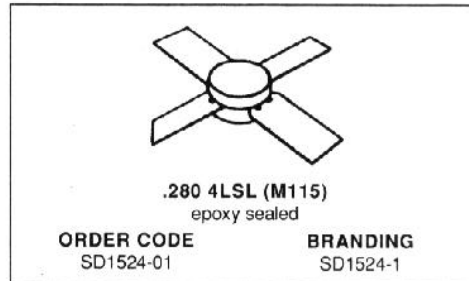


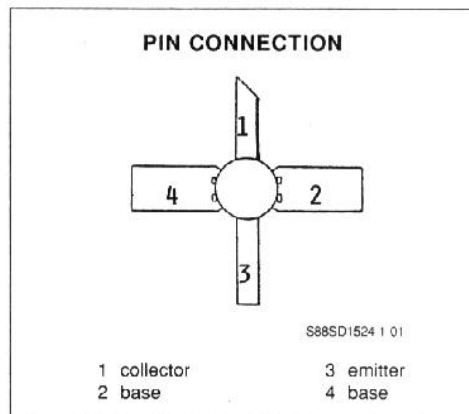
**RF & MICROWAVE TRANSISTORS
 IFF/DME APPLICATIONS**

- DESIGNED FOR HIGH POWER PULSE IFF, DME, TACAN
- 3.0W (typ) IFF 1030-1090MHz
- 2.7W (min) DME 1025-1150MHz
- 2.3W (typ) TACAN 960-1215MHz
- GREATER THAN 10.0dB GAIN
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE LOAD — VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION



DESCRIPTION

The SD1524-1 is a gold metallized, silicon NPN power transistor. The SD1524-1 is designed for applications requiring peak power and low duty cycles such as IFF, DME, TACAN. The SD1524-1 is packaged in the .280 input matched stripline package resulting in improved broadband performance and a low thermal resistance.



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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector - Base Voltage	45.0	V
V _{CEs}	Collector - Emitter Voltage	45.0	V
V _{EBO}	Emitter - Base Voltage	3.5	V
I _C	Collector Current (max.)	0.5	A
P _{TOT}	Total Device Dissipation at + 25°C	11.7	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	15.0	°C/W
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SD1524-1**ELECTRICAL CHARACTERISTICS** ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

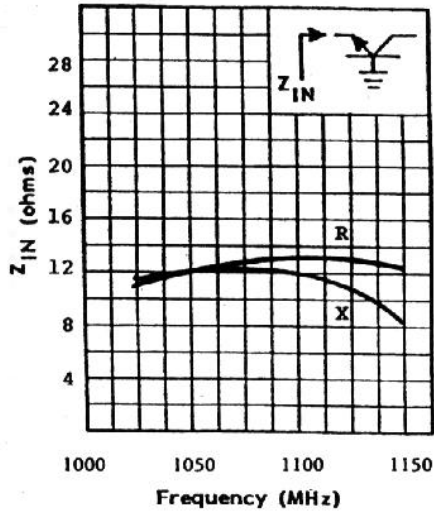
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	$I_{\text{C}} = 10\text{mA}$	$I_{\text{B}} = 0$	45.0			V
BV_{CES}	$I_{\text{C}} = 25\text{mA}$	$V_{\text{BE}} = 0$	45.0			V
BV_{EBO}	$I_{\text{E}} = 10\text{mA}$	$I_{\text{C}} = 0$	3.5			V
I_{CES}	$V_{\text{CB}} = 28.$	$V_{\text{BE}} = 0$			1.0	mA

DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_{O}^{**}	$f = 1090\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		3.0		W
P_{G}	$f = 1090\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		10.0		dB
P_{O}^{**}	$f = 1025/1150\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$	2.7			W
P_{G}	$f = 1025/1150\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$	9.5			dB
P_{O}^{***}	$f = 960/1215\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		2.3		W
P_{G}	$f = 960/1215\text{MHz}$	$V_{\text{CE}} = 28.0\text{V}$		9.0		dB

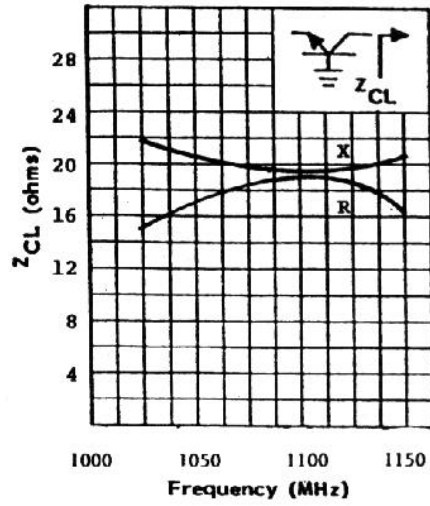
** Pulse width 10 μs , duty cycle 1%.*** Pulse width 10 μs , duty cycle 10%.

TYPICAL INPUT IMPEDANCE vs. FREQUENCY



S88SD1524-1-02

TYPICAL COLLECTOR LOAD IMPEDANCE vs. FREQUENCY



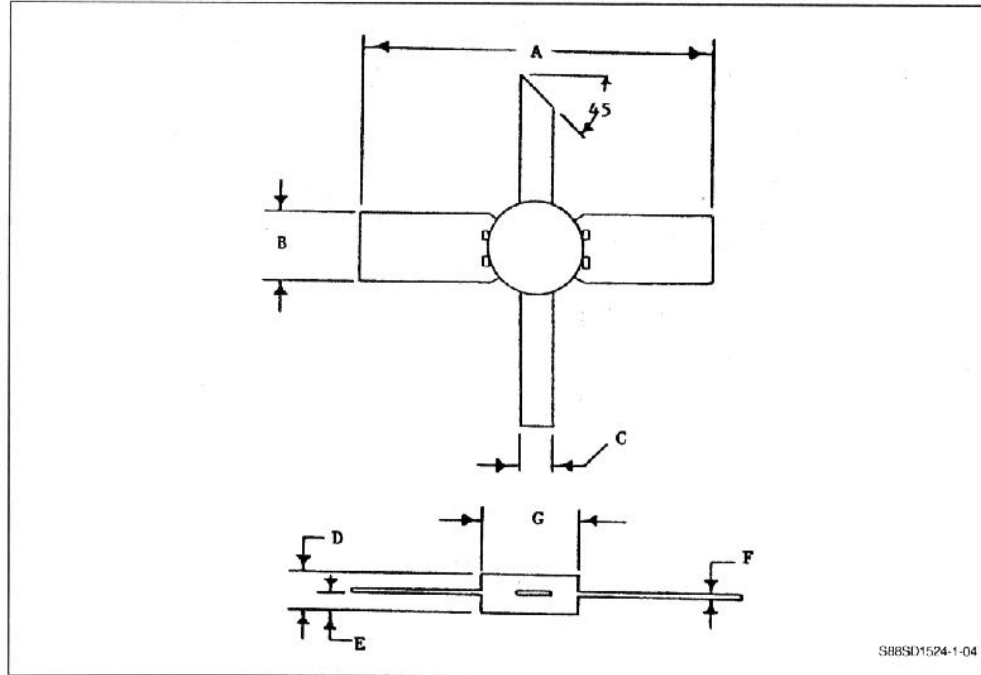
S88SD1524-1-03

$P_{in} = 0.5W$
 $V_{CE} = 28V$
 $P.W. = 10\mu s$
 $D.F. = 1\%$

SD1524-1

PACKAGE MECHANICAL DATA

.280 4LSL



S88SD1524-1-04

	Minimum Inches	Maximum Inches
A	1.000	
B	.195	.205
C	.095	.105
D	.120	.135
E	.050	.065
F	.004	.007
G	.275	.285