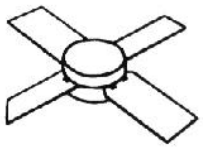
RF Products
Microsemi
Progress Powered by Technology

140 Commerce Drive
Montgomeryville, PA 18936-1013
Tel: (215) 631-9840

SD1526-1

RF & MICROWAVE TRANSISTORS IFF/DME APPLICATIONS

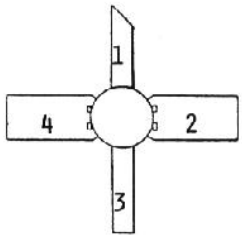
- DESIGNED FOR HIGH POWER PULSE IFF, DME, TACAN
- 6.0W (typ) IFF 1030-1090MHz
- 5.0W (min) DME 1025-1150MHz
- 4.0W (typ) TACAN 960-1215MHz
- GREATER THAN 9.5dB GAIN
- REFRACTORY BALLASTING AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- INFINITE LOAD — VSWR CAPABILITY AT SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION



.280 4LSL (M115)
epoxy sealed

ORDER CODE	BRANDING
SD1526-01	SD1526-1

PIN CONNECTION



S88SD1526-1-01

1 collector
2 base
3 emitter
4 base

DESCRIPTION

The SD1526-1 is a gold metallized, silicon NPN power transistor. The SD1526-1 is designed for applications requiring peak power and low duty cycles such as IFF, DME TACAN. The SD1526-1 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.)	1.0	A
P_{TOT}	Total Device Dissipation at + 25°C	21.9	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	8.0	°C/W

ELECTRICAL CHARACTERISTICS (T_{case} = 25°C)

STATIC

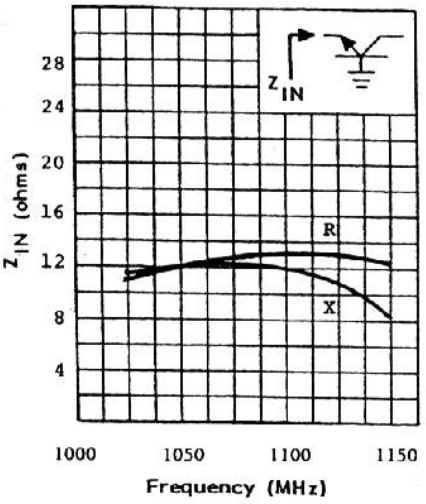
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CBO}	I_C = 10mA	I_B = 0	45.0			V
BV_{CES}	I_C = 25mA	V_{BE} = 0	45.0			V
BV_{EBO}	I_E = 10mA	I_C = 0	3.5			V
I_{CES}	V_{CB} = 28.0V	V_{BE} = 0			1.0	mA

DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P_O**	f = 1090MHz	V_{CE} = 28.0V		6.0		W
P_G	f = 1090MHz	V_{CE} = 28.0V		9.5		dB
P_o**	f = 1025/1150MHz	V_{CE} = 28.0V	5.0			W
P_g	f = 1025/1150MHz	V_{CE} = 28.0V	9.5			dB
P_o***	f = 960/1215MHz	V_{CE} = 28.0V		4.0		W
P_g	f = 960/1215MHz	V_{CE} = 28.0V		9.0		dB

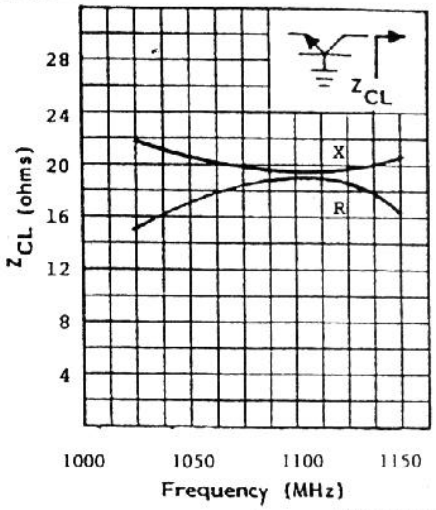
** Pulse width 10µs, duty cycle 1%.
*** Pulse width 10µs, duty cycle 10%.

TYPICAL INPUT IMPEDANCE vs. FREQUENCY



S88SD1526-1-02

TYPICAL COLLECTOR LOAD IMPEDANCE vs. FREQUENCY

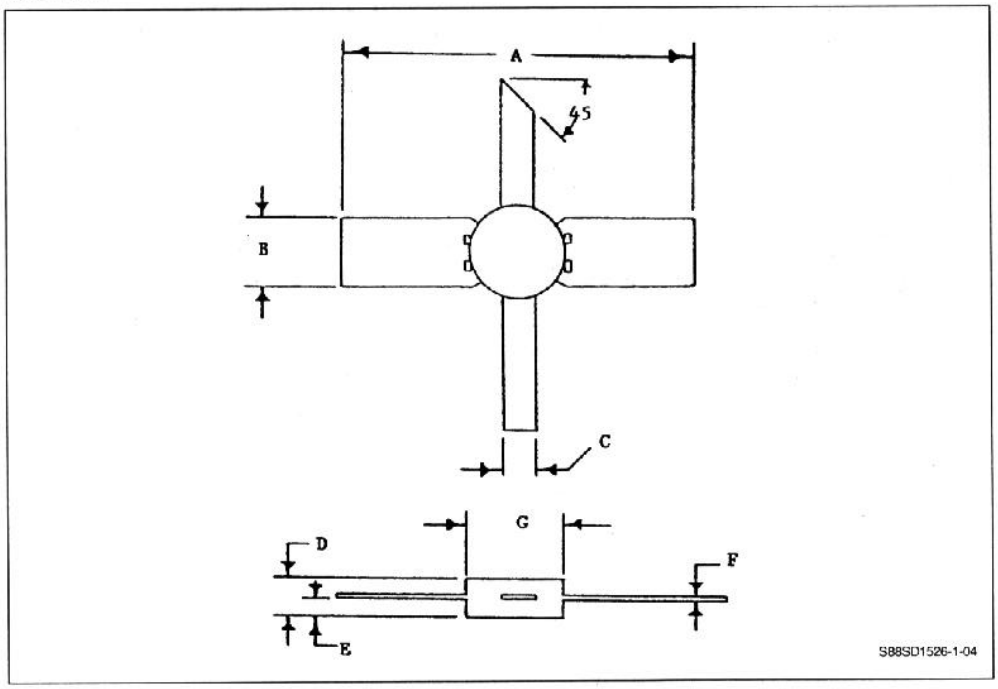


S88SD1526-1-03

Pin = 0.5W
V_{CE} = 28V
P.W. = 10µs
D.F. = 1%

PACKAGE MECHANICAL DATA

.280 4LSL



	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