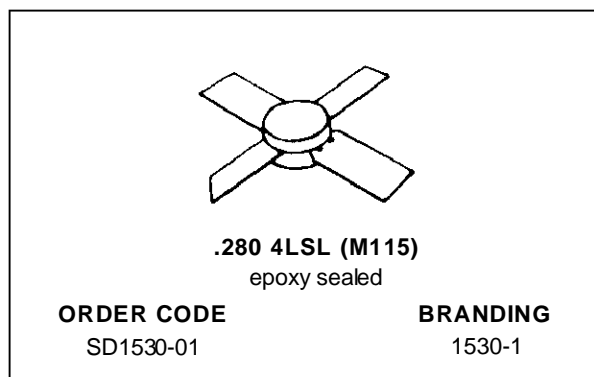
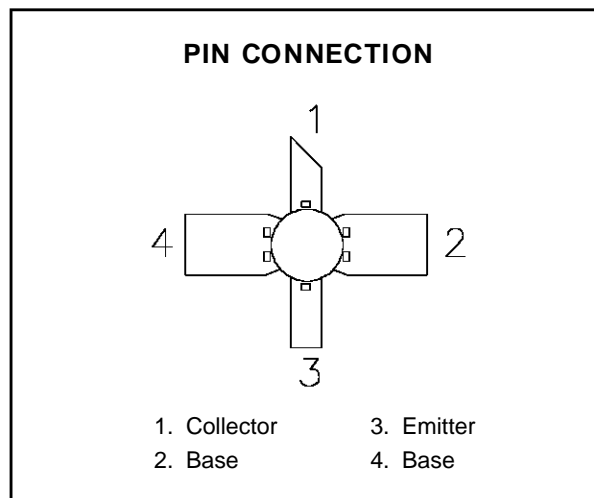


**RF & MICROWAVE TRANSISTORS  
AVIONICS APPLICATIONS**

- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 40 WATTS (typ.) IFF 1030 - 1090 MHz
- 35 WATTS (min.) DME 1025 - 1150 MHz
- 25 WATTS (typ.) TACAN 960 - 1215 MHz
- 9.0 dB MIN. 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 SD1530-01 is a gold metallized silicon, NPN power transistor designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1530-01 is packaged in the .280" input matched stripline package resulting in improved broadband performance and a low thermal resistance.


**ABSOLUTE MAXIMUM RATINGS** ( $T_{case} = 25^{\circ}C$ )

Symbol	Parameter	Value	Unit
$V_{CBO}$	Collector-Base Voltage	65	V
$V_{CES}$	Collector-Emitter Voltage	65	V
$V_{EBO}$	Emitter-Base Voltage	3.5	V
$I_C$	Device Current	2.6	A
$P_{DISS}$	Power Dissipation	87.5	W
$T_J$	Junction Temperature	+200	$^{\circ}C$
$T_{STG}$	Storage Temperature	- 65 to +150	$^{\circ}C$

**THERMAL DATA**

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	2.0	$^{\circ}C/W$
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# SD1530-01

## ELECTRICAL SPECIFICATIONS (T<sub>case</sub> = 25°C)

### STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 20mA	I <sub>E</sub> = 0mA	60	—	—	V
BV <sub>CES</sub>	I <sub>C</sub> = 20mA	V <sub>BE</sub> = 0V	60	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 2mA	I <sub>C</sub> = 0mA	3.5	—	—	V
I <sub>CBO</sub>	V <sub>CB</sub> = 50V	I <sub>E</sub> = 0mA	—	—	2	mA
h <sub>FE</sub>	V <sub>CB</sub> = 5V	I <sub>C</sub> = .5A				

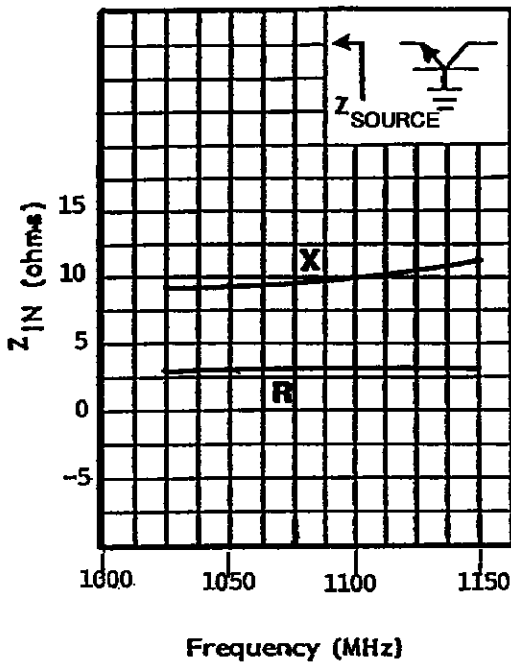
### DYNAMIC

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 1025 – 1150MHz	P <sub>IN</sub> = 5.6 W	V <sub>CE</sub> = 50 V	35	—	—	W
G <sub>P</sub>	f = 1025 – 1150MHz	P <sub>IN</sub> = 5.6 W	V <sub>CE</sub> = 50 V	9.0	—	—	dB

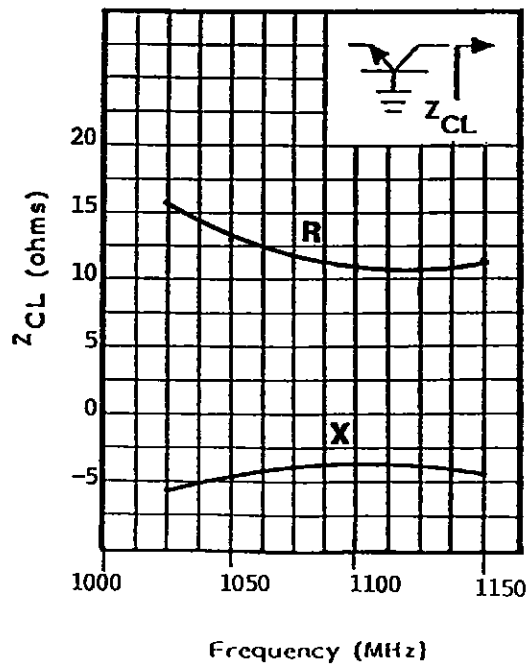
Note: Pulse Width = 10μSec, Duty Cycle = 1%  
 This device is suitable for use under other pulse width/duty cycle conditions.  
 Please contact the factory for specific applications assistance.

### IMPEDANCE DATA

TYPICAL INPUT IMPEDANCE

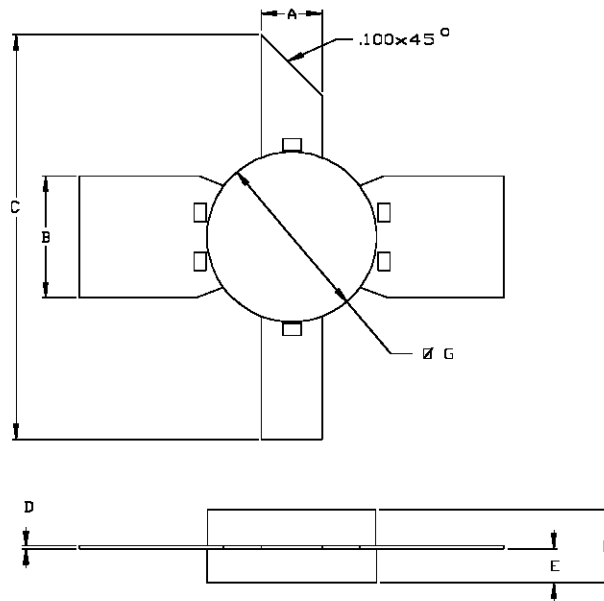


TYPICAL COLLECTOR LOAD IMPEDANCE



## PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0115



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.095/2,41	.105/2,67
B	.195/4,95	.205/5,21
C	1.000/25,40	
D	.004/0,10	.007/0,18
E	.050/1,27	.065/1,65
F		.145/3,68
G	.275/6,99	.285/7,21