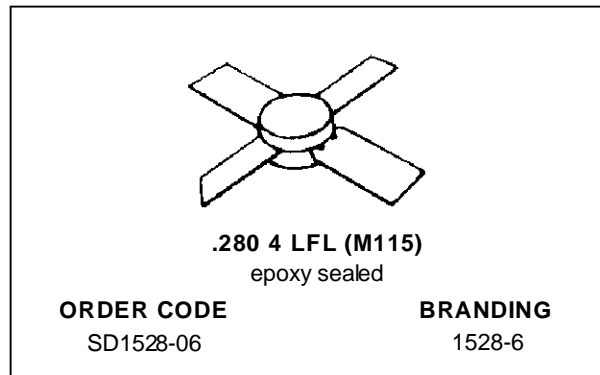
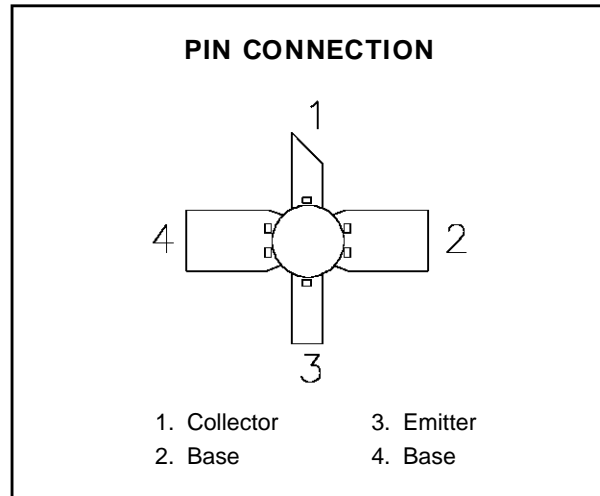


**RF & MICROWAVE TRANSISTORS
AVIONICS APPLICATIONS**

- DESIGNED FOR HIGH POWER PULSED IFF, DME, TACAN APPLICATIONS
- 20 W (typ.) IFF 1030 - 1090 MHz
- 15 W (min.) DME 1025 - 1150 MHz
- 15 W (typ.) TACAN 960 - 1215 MHz
- REFRACTORY GOLD METALLIZATION
- EMITTER BALLASTED AND LOW THERMAL RESISTANCE FOR RELIABILITY AND RUGGEDNESS
- 20:1 LOAD VSWR CAPABILITY @ SPECIFIED OPERATING CONDITIONS
- INPUT MATCHED, COMMON BASE CONFIGURATION


DESCRIPTION

The SD1528-06 is a gold metallized epitaxial silicon NPN power transistor. The SD1528-06 is designed for applications requiring high peak power and low duty cycles such as IFF, DME and TACAN. The SD1528-06 is packaged in the .280" input matched stripline 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	65	V
V_{CES}	Collector-Emitter Voltage	65	V
V_{EBO}	Emitter-Base Voltage	3.5	V
I_C	Device Current	1.5	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	$^{\circ}C/W$
---------------	----------------------------------	-----	---------------

SD1528-06

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

STATIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV _{CBO}	I _C = 10mA	I _E = 0mA	65	—	—	V
BV _{CES}	I _C = 25mA	V _{BE} = 0V	65	—	—	V
BV _{EBO}	I _E = 1mA	I _C = 0mA	3.5	—	—	V
I _{CES}	V _{CE} = 50V	I _E = 0mA	—	—	2	mA
h _{FE}	V _{CE} = 5V	I _C = .1A	10	—	200	—

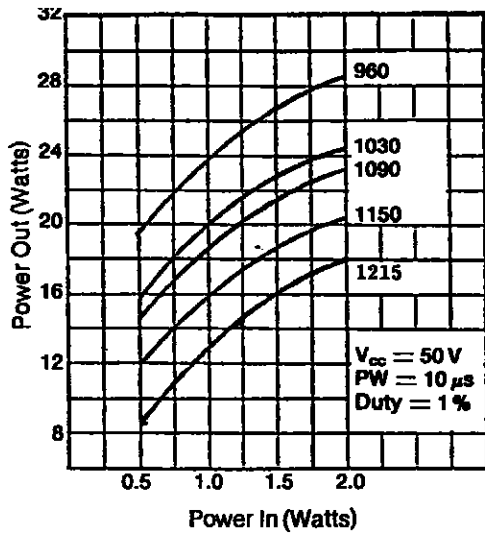
DYNAMIC

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
P _{OUT}	f = 1025 — 1150MHz	P _{IN} = 1.5 W V _{CE} = 50 V	15	—	—	W
G _P	f = 1025 — 1150MHz	P _{IN} = 1.5 W V _{CE} = 50 V	10	—	—	dB
η _C	f = 1025 — 1150MHz	P _{IN} = 1.5 W V _{CE} = 50 V	30	—	—	%

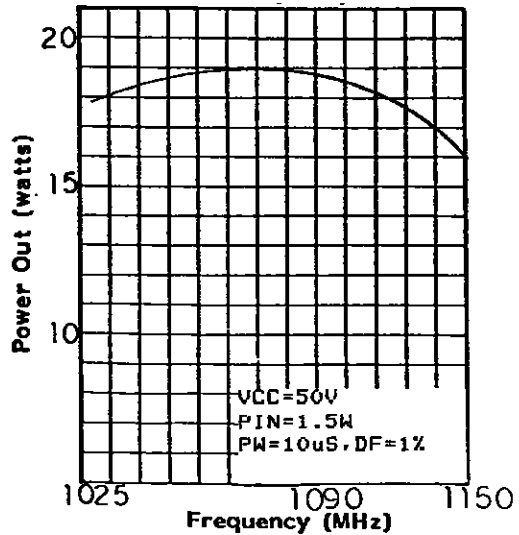
Note: Pulse Width = 10μsec, Duty Cycle = 1%

TYPICAL PERFORMANCE

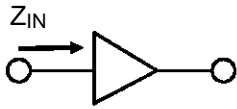
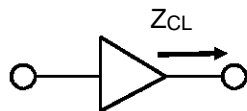
POWER OUTPUT vs POWER INPUT



POWER OUTPUT vs FREQUENCY



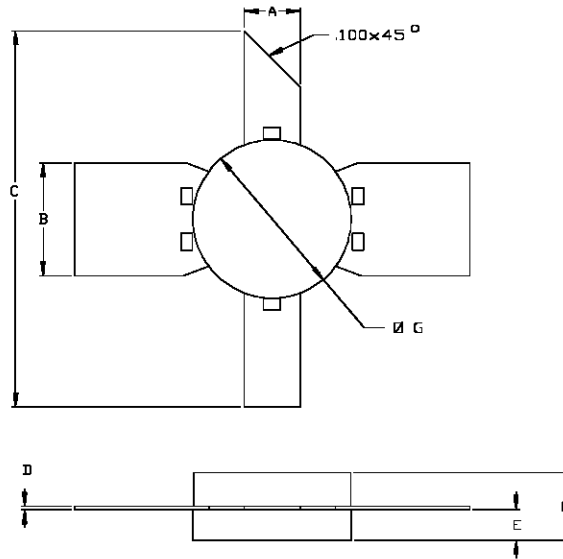
IMPEDANCE DATA

TYPICAL INPUT
IMPEDANCETYPICAL COLLECTOR
LOAD IMPEDANCE

FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
960 MHz	2.5 + j 12.5	17.0 + j 15.5
1030 MHz	3.5 + j 12.5	17.0 + j 14.5
1090 MHz	3.0 + j 13.5	19.5 + j 12.5
1150 MHz	3.5 + j 14.0	18.0 + j 12.0
1215 MHz	5.0 + j 17.0	16.0 + j 12.0

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

Information furnished is believed to be accurate and reliable. However, SGS-THOMSON Microelectronics assumes no responsibility for the consequences of use of such information nor for any infringement of patents or other rights of third parties which may results from its use. No license is granted by implication or otherwise under any patent or patent rights of SGS-THOMSON Microelectronics. Specifications mentioned in this publication are subject to change without notice. This publication supersedes and replaces all information previously supplied. SGS-THOMSON Microelectronics products are not authorized for use as critical components in life support devices or systems without express written approval of SGS-THOMSON Microelectronics.

© 1994 SGS-THOMSON Microelectronics - All Rights Reserved

SGS-THOMSON Microelectronics GROUP OF COMPANIES
 Australia - Brazil - France - Germany - Hong Kong - Italy - Japan - Korea - Malaysia - Malta - Morocco - The Netherlands -
 Singapore - Spain - Sweden - Switzerland - Taiwan - Thailand - United Kingdom - U.S.A