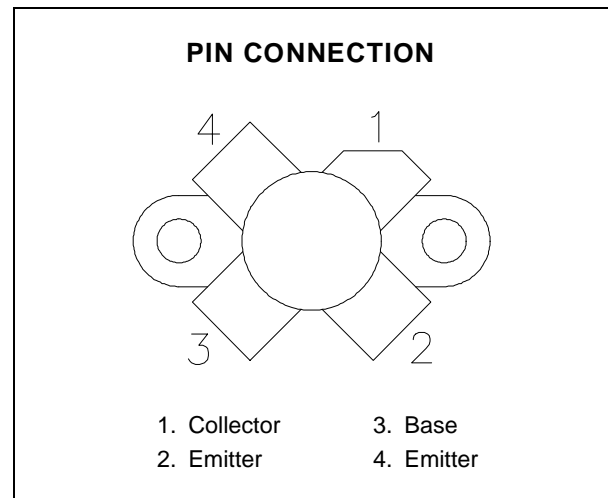
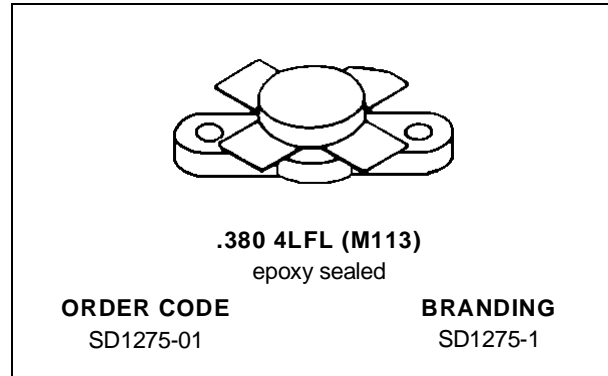


**RF & MICROWAVE TRANSISTORS
VHF MOBILE APPLICATIONS**

- 160 MHz
- 13.6 VOLTS
- COMMON EMITTER
- P_{OUT} = 40 W MIN. WITH 9.0 dB GAIN


DESCRIPTION

The SD1275-01 is a 13.6 V Class C epitaxial silicon NPN planar transistor designed primarily for VHF communications. The SD1275-01 utilizes an emitter ballasted die geometry to withstand severe load mismatch conditions.

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

Symbol	Parameter	Value	Unit
V _{CBO}	Collector-Base Voltage	36	V
V _{CEO}	Collector-Emitter Voltage	16	V
V _{CES}	Collector-Emitter Voltage	36	V
V _{EBO}	Emitter-Base Voltage	4.0	V
I _C	Device Current	8.0	A
P _{DISS}	Power Dissipation	70	W
T _J	Junction Temperature	+200	°C
T _{STG}	Storage Temperature	- 65 to +150	°C

THERMAL DATA

R _{TH(j-c)}	Junction-Case Thermal Resistance	1.2	°C/W
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SD1275-01

ELECTRICAL SPECIFICATIONS ($T_{case} = 25^{\circ}C$)

STATIC

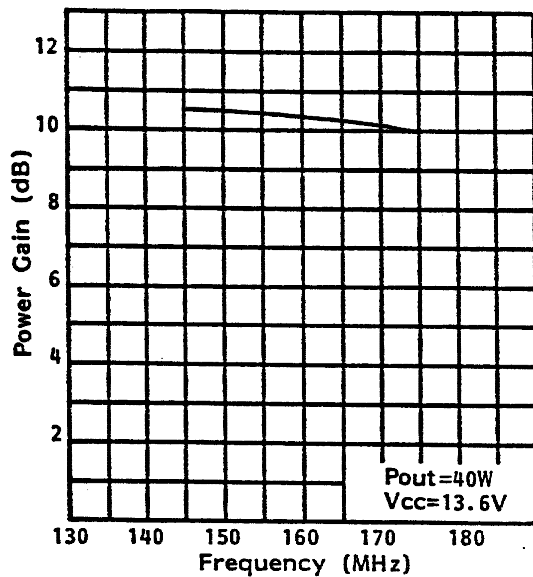
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_C = 15mA$	$V_{BE} = 0mA$	36	—	—	V
BV_{CEO}	$I_C = 50mA$	$I_B = 0mA$	16	—	—	V
BV_{EBO}	$I_E = 5mA$	$I_C = 0mA$	4.0	—	—	V
I_{CBO}	$V_{CB} = 15V$	$I_E = 0mA$	—	—	5	mA
h_{FE}	$V_{CE} = 5V$	$I_C = 250mA$	20	—	—	—

DYNAMIC

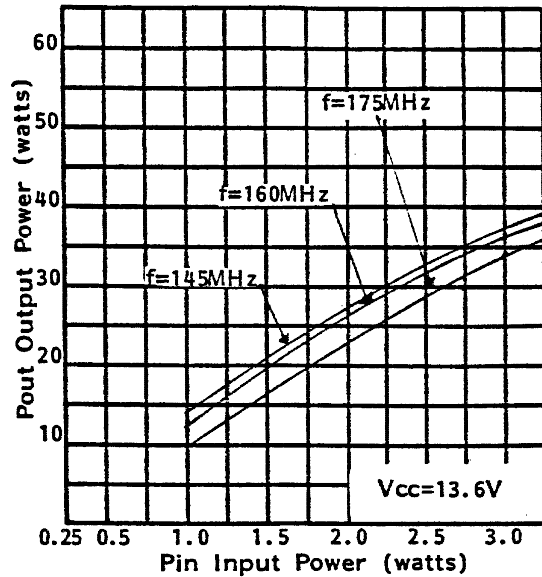
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 160\text{ MHz}$	$P_{IN} = 5.0\text{ W}$	$V_{CE} = 13.6\text{ V}$	40	—	—	W
G_P	$f = 160\text{ MHz}$	$P_{IN} = 5.0\text{ W}$	$V_{CE} = 13.6\text{ V}$	9	—	—	dB
C_{OB}	$f = 1\text{ MHz}$	$V_{CB} = 15\text{ V}$		—	95	—	pF

TYPICAL PERFORMANCE

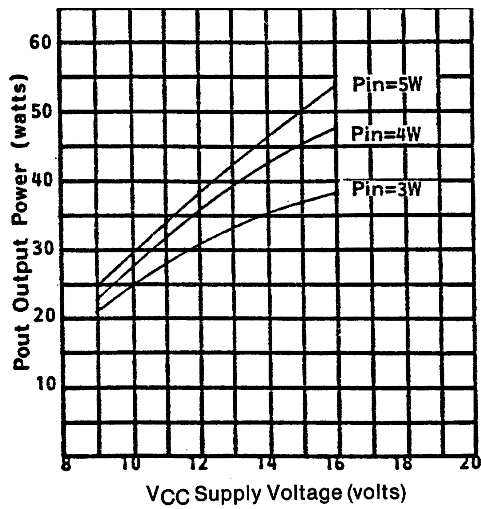
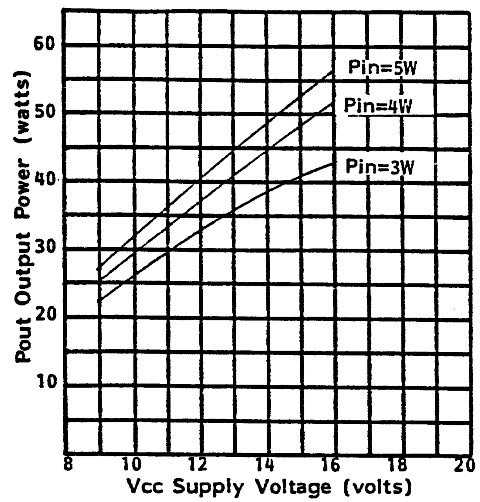
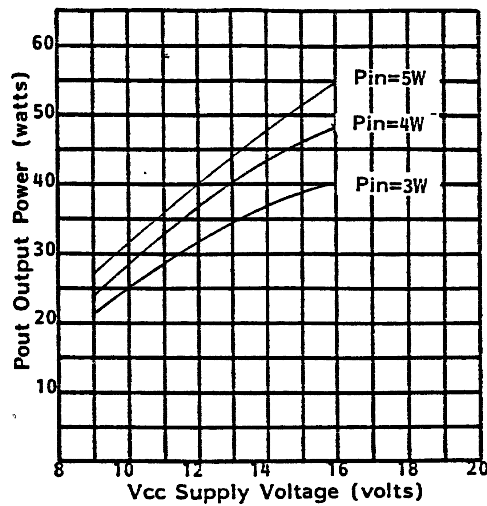
POWER GAIN vs FREQUENCY



POWER OUTPUT vs POWER INPUT



TYPICAL PERFORMANCE (cont'd)

POWER OUTPUT vs SUPPLY VOLTAGE
(175 MHz)POWER OUTPUT vs SUPPLY VOLTAGE
(145 MHz)POWER OUTPUT vs SUPPLY VOLTAGE
(160 MHz)

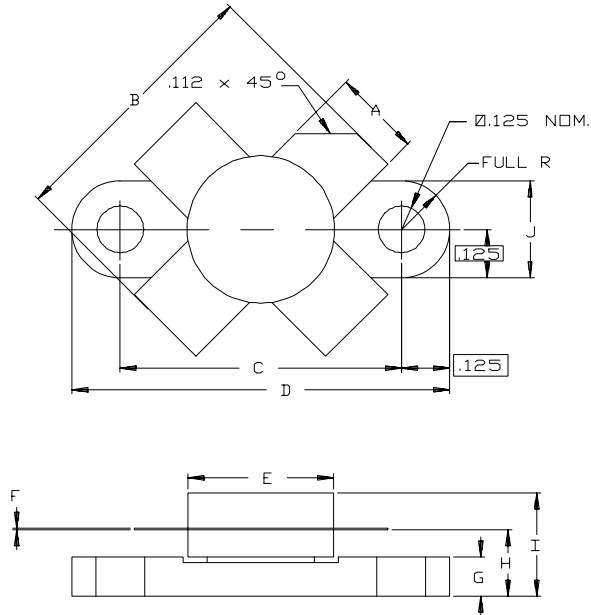
IMPEDANCE DATA

FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
160 MHz	1.0 + j 0.4	2.3 + j 0.1

P_{IN} = 3.0 W
V_{CE} = 12.5 V

PACKAGE MECHANICAL DATA

Ref.: Dwg. No.12-0113



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84
B	.785/19,94	
C	.720/18,29	.730/18,54
D	.970/24,64	.980/24,89
E		.385/9,78
F	.004/0,10	.006/0,15
G	.085/2,16	.105/2,67
H	.160/4,06	.180/4,57
I		.280/7,11
J	.240/6,10	.255/6,48

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