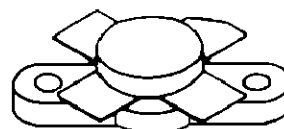


RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

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



.380 4LFL (M113)
epoxy sealed

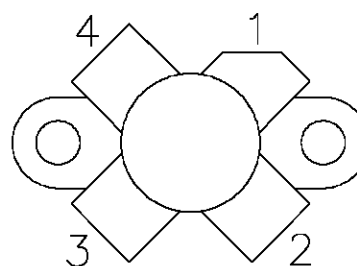
ORDER CODE

SD1275-01

BRANDING

SD1275-1

PIN CONNECTION



1. Collector

2. Emitter

3. Base

4. Emitter

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

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	$^{\circ}\text{C}$
T_{STG}	Storage Temperature	- 65 to +150	$^{\circ}\text{C}$

THERMAL DATA

$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.2	$^{\circ}\text{C/W}$
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SD1275-01

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

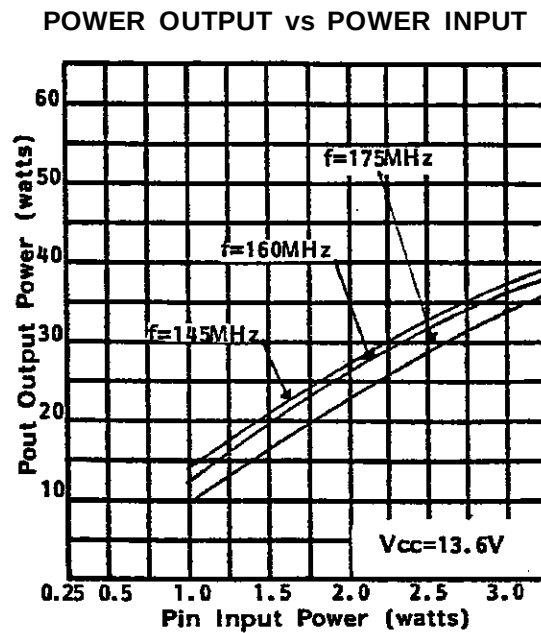
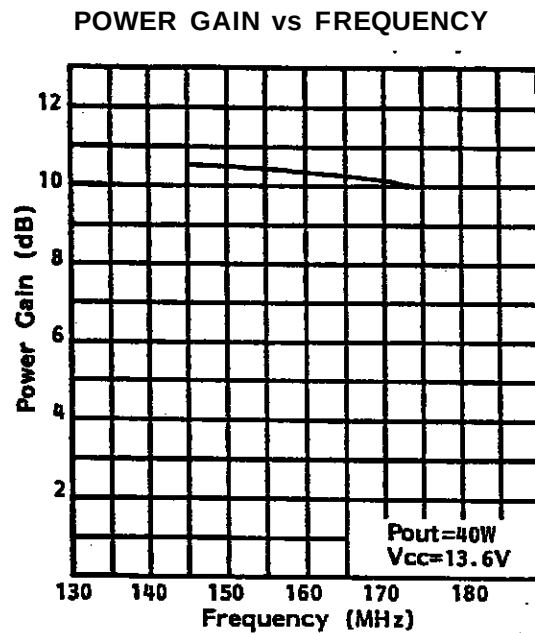
STATIC

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

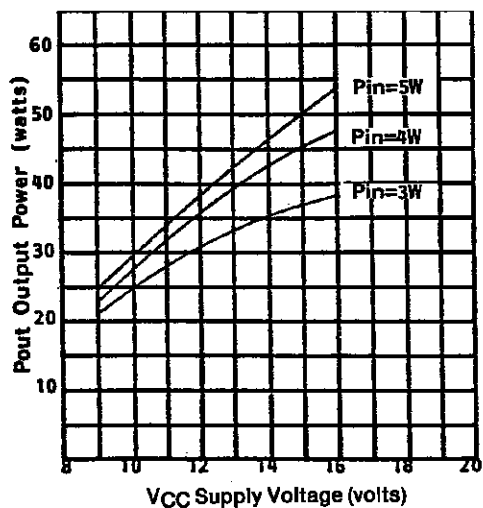
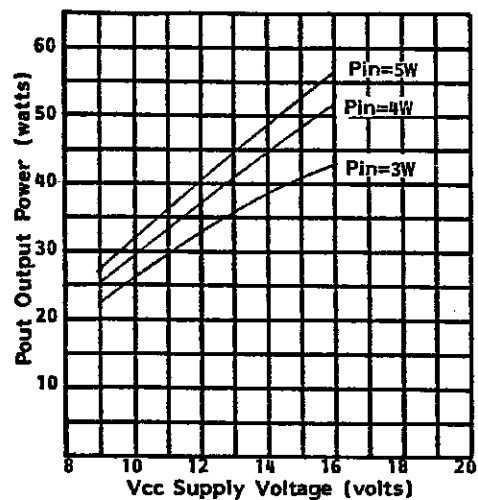
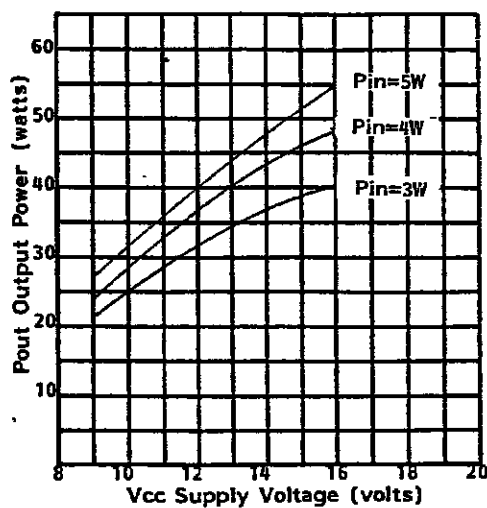
DYNAMIC

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

TYPICAL PERFORMANCE



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

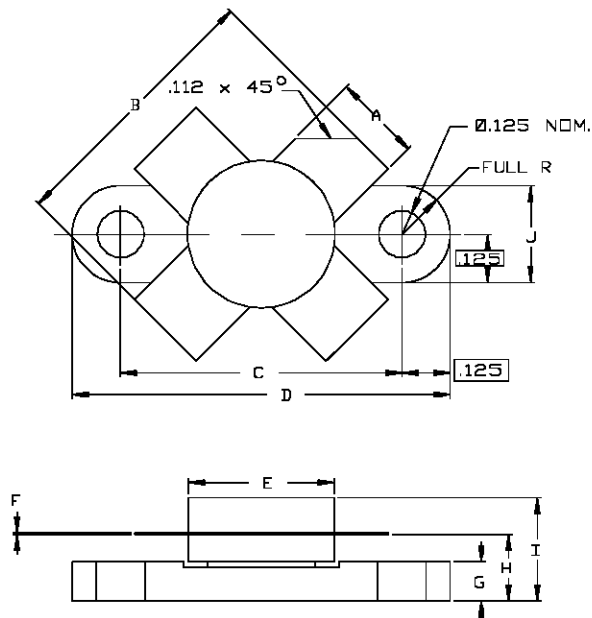
FREQ.	Z_{IN} (Ω)	Z_{CL} (Ω)
160 MHz	$1.0 + j 0.4$	$2.3 + j 0.1$

PIN = 3.0 W

VCE = 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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