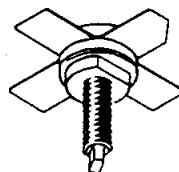


RF & MICROWAVE TRANSISTORS VHF MOBILE APPLICATIONS

- 160 MHz
- 13.6 VOLTS
- COMMON EMITTER
- $P_{OUT} = 30\text{ W MIN. WITH } 10\text{ dB GAIN}$

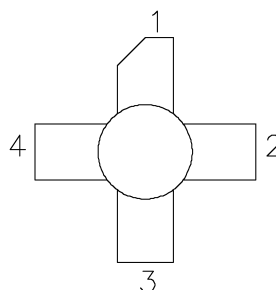


.380 4L STUD (M135)
epoxy sealed

ORDER CODE
SD1274

BRANDING
SD1274

PIN CONNECTION



1. Collector 3. Base
2. Emitter 4. Emitter

DESCRIPTION

The SD1274 is a 13.6 V Class C epitaxial silicon NPN planar transistor designed primarily for VHF communications. The SD1274 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

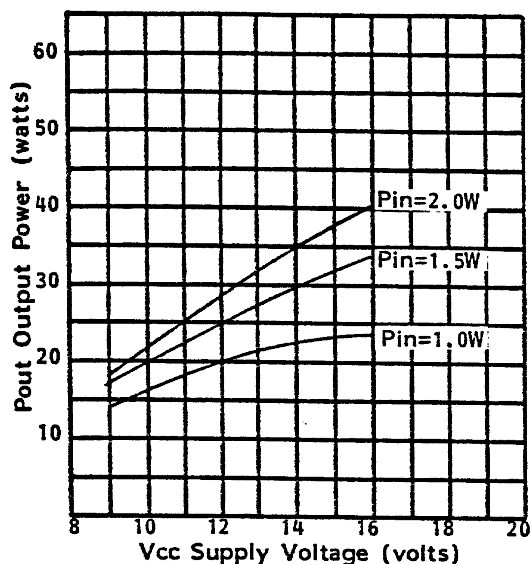
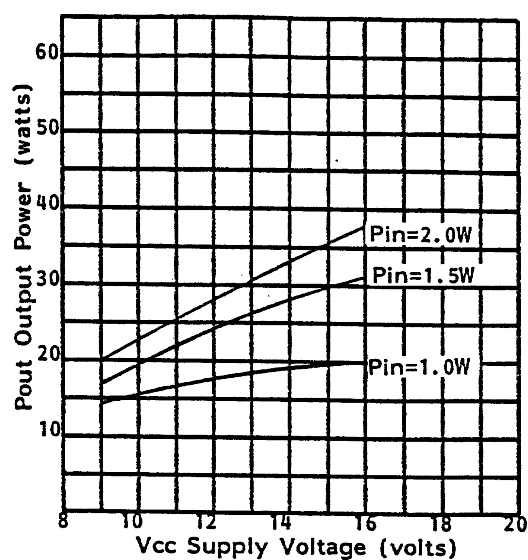
$R_{TH(j-c)}$	Junction-Case Thermal Resistance	1.2	$^{\circ}\text{C/W}$
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ELECTRICAL SPECIFICATIONS ($T_{\text{case}} = 25^{\circ}\text{C}$)**STATIC**

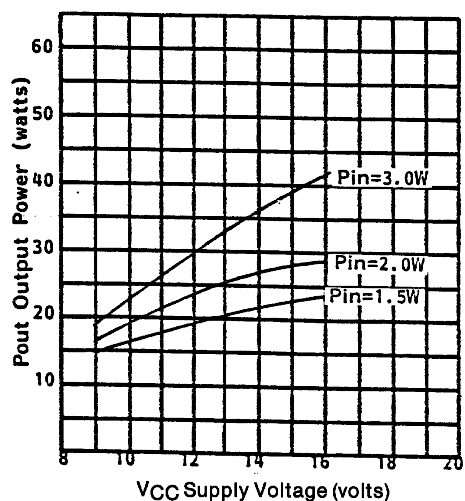
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV_{CES}	$I_{\text{C}} = 15\text{mA}$	$V_{\text{BE}} = 0\text{mA}$	36	—	—	V
BV_{CEO}	$I_{\text{C}} = 50\text{mA}$	$I_{\text{B}} = 0\text{mA}$	16	—	—	V
BV_{EBO}	$I_{\text{E}} = 5\text{mA}$	$I_{\text{C}} = 0\text{mA}$	4.0	—	—	V
I_{CBO}	$V_{\text{CB}}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

DYNAMIC

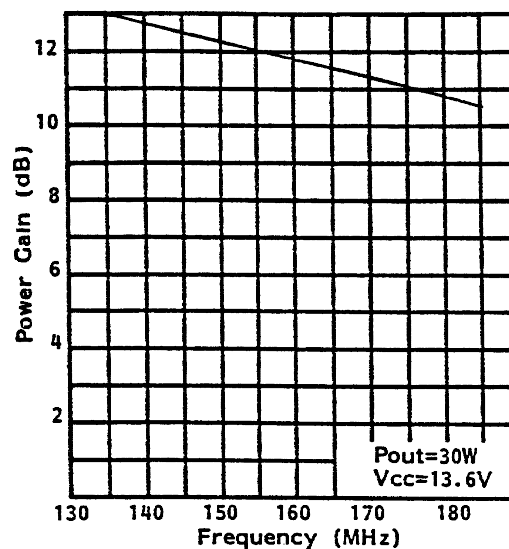
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P_{OUT}	$f = 160\text{ MHz}$	$P_{\text{IN}} = 3.0\text{ W}$	$V_{\text{CE}} = 13.6\text{ V}$	30	—	—	W
G_{P}	$f = 160\text{ MHz}$	$P_{\text{IN}} = 3.0\text{ W}$	$V_{\text{CE}} = 13.6\text{ V}$	10	—	—	dB
C_{OB}	$f = 1\text{ MHz}$	$V_{\text{CB}} = 15\text{ V}$		—	95	—	pF

TYPICAL PERFORMANCE**POWER OUTPUT vs SUPPLY VOLTAGE**
(136 MHz)**POWER OUTPUT vs SUPPLY VOLTAGE**
(150 MHz)

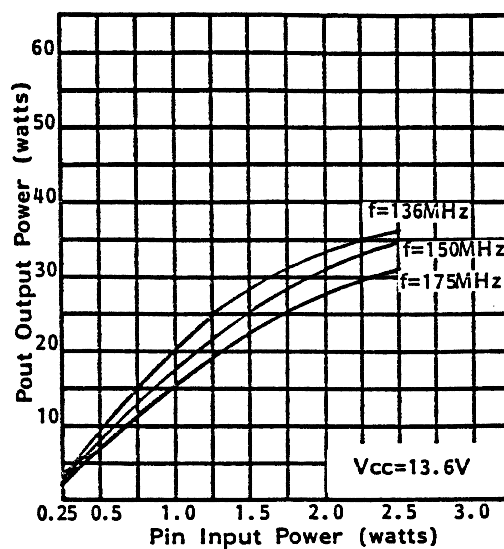
TYPICAL PERFORMANCE (cont'd)

POWER OUTPUT vs SUPPLY VOLTAGE
(175 MHz)

POWER GAIN vs FREQUENCY



POWER OUTPUT vs POWER INPUT



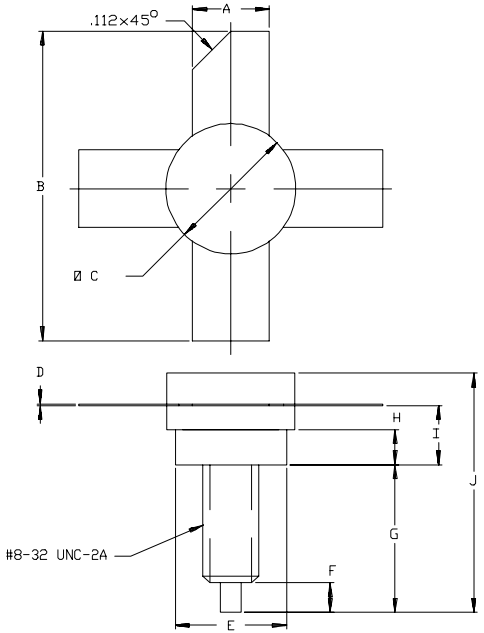
IMPEDANCE DATA

FREQ.	Z _{IN} (Ω)	Z _{CL} (Ω)
175 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.12-0135



SGS-THOMSON MICROELECTRONICS		
	MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.220/5,59	.230/5,84
B	.980/24,89	
C	.370/9,40	.385/9,78
D	.004/0,10	.007/0,18
E	.320/8,13	.330/8,38
F	.100/2,54	.130/3,30
G	.450/11,43	.490/12,45
H	.090/2,29	.100/2,54
I	.155/3,94	.175/4,45
J		.750/19,05

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