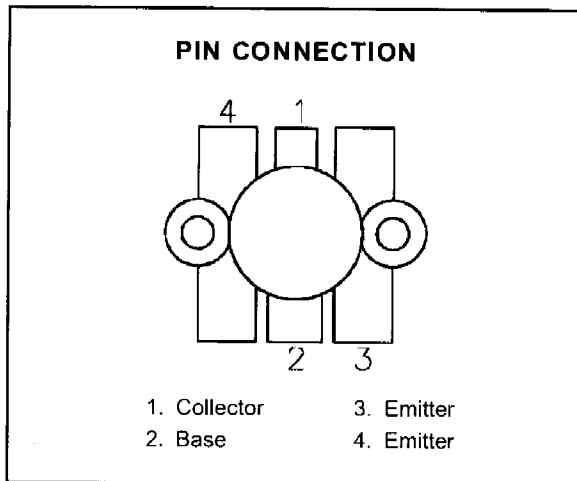
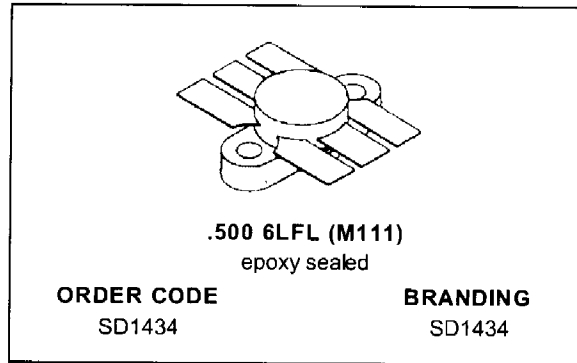


**RF & MICROWAVE TRANSISTORS  
UHF MOBILE APPLICATIONS**

- 470 MHz
- 12.5 VOLTS
- COMMON EMITTER
- P<sub>OUT</sub> = 45 W MIN. WITH 5.0 dB GAIN



**DESCRIPTION**

The SD1434 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes diffused emitter resistors to achieve infinite VSWR under operating conditions.

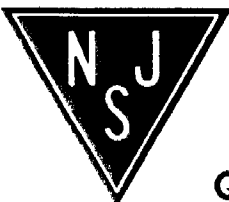
**ABSOLUTE MAXIMUM RATINGS** (T<sub>case</sub> = 25°C)

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector-Base Voltage	36	V
V <sub>CEO</sub>	Collector-Emitter Voltage	16	V
V <sub>CES</sub>	Collector-Emitter Voltage	36	V
V <sub>EBO</sub>	Emitter-Base Voltage	4.0	V
I <sub>C</sub>	Device Current	10.0	A
P <sub>DISS</sub>	Power Dissipation	175	W
T <sub>J</sub>	Junction Temperature	+200	°C
T <sub>STG</sub>	Storage Temperature	- 65 to +150	°C

**THERMAL DATA**

R <sub>TH(j-c)</sub>	Junction-Case Thermal Resistance	1.0	°C/W
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NJ Semi-Conductors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Conductors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Conductors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Conductors encourages customers to verify that datasheets are current before placing orders.



# SD1434

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

### STATIC

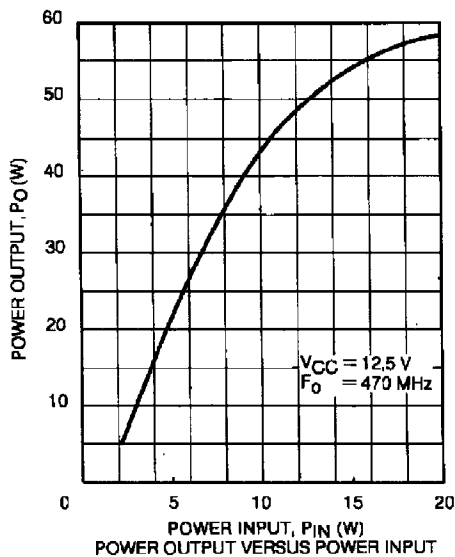
Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
BV <sub>CBO</sub>	I <sub>C</sub> = 5mA	I <sub>E</sub> = 0mA	36	—	—	V
BV <sub>CES</sub>	I <sub>C</sub> = 20mA	V <sub>BE</sub> = 0V	36	—	—	V
BV <sub>CEO</sub>	I <sub>C</sub> = 50mA	I <sub>B</sub> = 0mA	16	—	—	V
BV <sub>EBO</sub>	I <sub>E</sub> = 5mA	I <sub>C</sub> = 0mA	4.0	—	—	V
I <sub>CES</sub>	V <sub>CE</sub> = 22V	I <sub>E</sub> = 0mA	—	—	5	mA
I <sub>CBO</sub>	V <sub>CB</sub> = 15V	I <sub>E</sub> = 0mA	—	—	5	mA
h <sub>FE</sub>	V <sub>CE</sub> = 5V	I <sub>C</sub> = 1A	20	—	200	—

### DYNAMIC

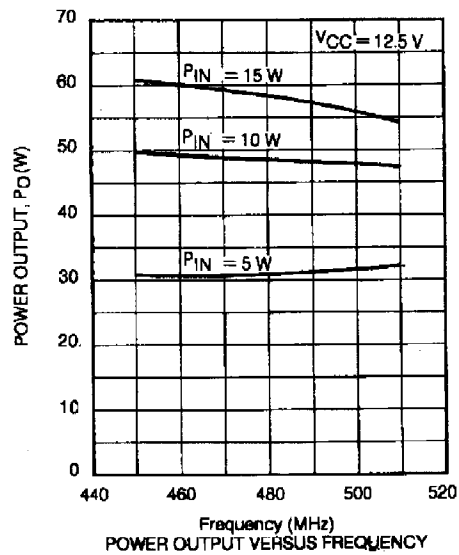
Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
P <sub>OUT</sub>	f = 470 MHz	P <sub>IN</sub> = 14 W	V <sub>CE</sub> = 12.5 V	45	—	—	W
G <sub>p</sub>	f = 470 MHz	P <sub>IN</sub> = 14 W	V <sub>CE</sub> = 12.5 V	5	—	—	dB
C <sub>OB</sub>	f = 1 MHz	V <sub>CB</sub> = 12.5 V		—	130	—	pF

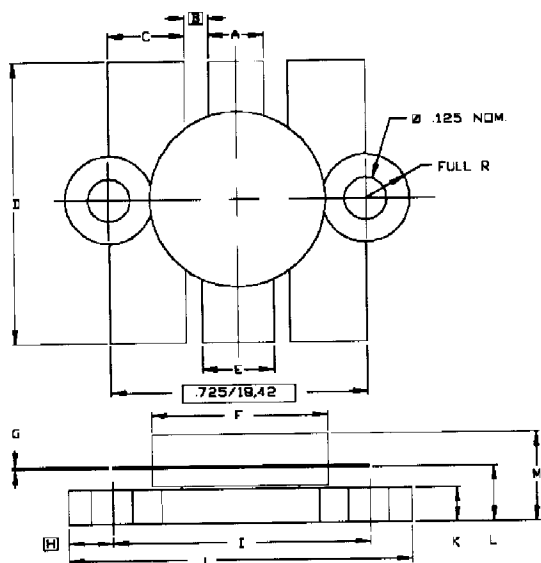
### TYPICAL PERFORMANCE

**POWER OUTPUT vs POWER INPUT**



**POWER OUTPUT vs FREQUENCY**





SGS-THOMSON MICROELECTRONICS			CONT'D		
	MINIMUM Inches/mm	MAXIMUM Inches/mm		MINIMUM Inches/mm	MAXIMUM Inches/mm
A	.150/3.43	.160/4.06	K	.095/2.41	.105/2.67
B	.045/1.14		L	.150/3.81	.170/4.32
C	.210/5.33	.220/5.59	M		.280/7.11
D	.835/21.21	.865/21.97			
E	.200/5.08	.210/5.33			
F	.490/12.45	.510/12.95			
G	.003/0.08	.007/0.18			
H	.125/3.18				
I	.720/18.29	.730/18.54			
J	.970/24.64	.980/24.89			