

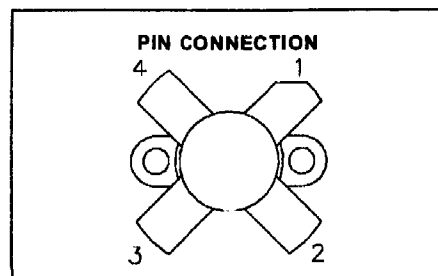
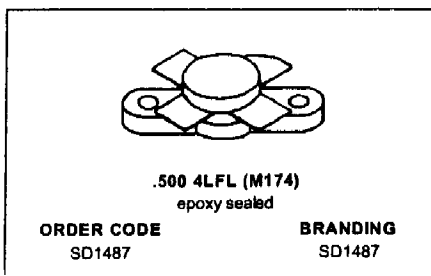
## SD1487

### RF & MICROWAVE TRANSISTORS HF SSB APPLICATIONS

- 30 MHz
- 12.5 VOLTS
- IMD -30 dB
- COMMON EMITTER
- GOLD METALLIZATION
- P<sub>OUT</sub> = 100 W MIN. WITH 12.0 dB GAIN

#### DESCRIPTION

The SD1487 is a 12.5 V Class C epitaxial silicon NPN planar transistor designed primarily for HF communications. This device utilizes state-of-the-art diffused emitter ballasting to achieve extreme ruggedness under severe operating conditions.



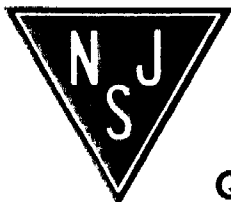
1. Collector
2. Emitter
3. Base
4. Emitter

#### 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	18	V
V <sub>EB0</sub>	Emitter-Base Voltage	4.0	V
I <sub>c</sub>	Device Current	20	A
P <sub>DISS</sub>	Power Dissipation	290	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	0.6	°C/W
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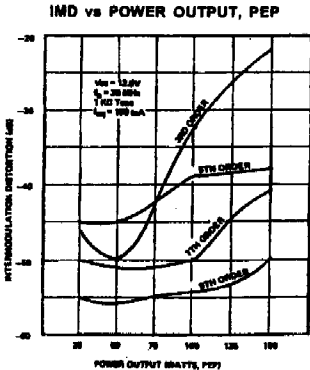


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**ELECTRICAL SPECIFICATIONS** ( $T_{case} = 25^{\circ}C$ )

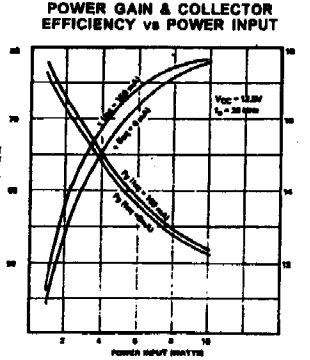
**STATIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{CBO}$	$I_C = 100mA$	$I_E = 0mA$	36	—	—	V
$BV_{CES}$	$I_C = 100mA$	$V_{BE} = 0V$	36	—	—	V
$BV_{CEO}$	$I_C = 100mA$	$I_B = 0mA$	18	—	—	V
$BV_{EBO}$	$I_E = 20mA$	$I_C = 0mA$	4.0	—	—	V
$I_{CES}$	$V_{CE} = 15V$	$I_E = 0mA$	—	—	20	mA
$h_{FE}$	$V_{CE} = 5V$	$I_C = 5A$	10	—	200	—



**DYNAMIC**

Symbol	Test Conditions			Value			Unit
				Min.	Typ.	Max.	
$P_{OUT}$	$f = 30 MHz$	$V_{CE} = 12.5 V$	$I_{CQ} = 150mA$	100	—	—	W
$G_P$	$f = 30 MHz$	$V_{CE} = 12.5 V$	$I_{CQ} = 150mA$	11	13	—	dB
$IMD_3^*$	$P_{OUT} = 100WPEP$	$V_{CE} = 12.5 V$	$I_{CQ} = 150mA$	—	—	-30	dBc
$C_{OB}$	$f = 1 MHz$	$V_{CB} = 12.5 V$		—	400	—	pF



\*Note:  $f = 30 + 30.001MHz$