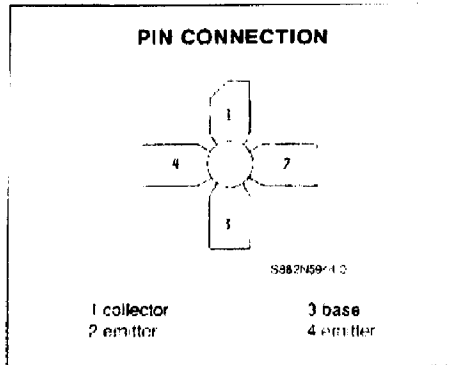
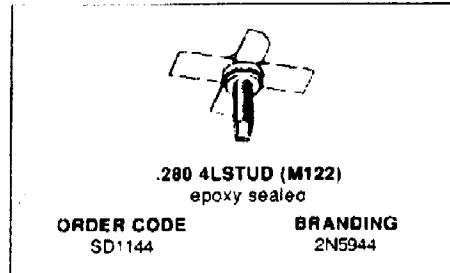


**2N5944**

**RF & MICROWAVE TRANSISTORS  
 450-512MHz CLASS C MOBILE APPLICATIONS**

- CLASS C TRANSISTOR
- FREQUENCY 470MHz
- VOLTAGE 12.5V
- POWER OUT 2W
- POWER GAIN 9dB
- COLLECTOR EFFICIENCY 60%
- COMMON EMITTER



**DESCRIPTION**

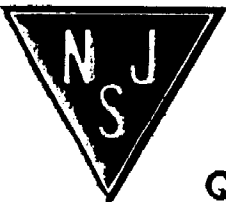
The 2N5944 is a 12.5V epitaxial silicon NPN planar transistor designed primarily for UHF communications. This device utilizes improved metalization to achieve infinite VSWR at rated operating conditions.

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

Symbol	Parameter	Value	Unit
V <sub>CB0</sub>	Collector - Base Voltage	35.0	V
V <sub>CE0</sub>	Collector - Emitter Voltage	15.0	V
V <sub>ES0</sub>	Collector - Emitter Voltage	36	V
V <sub>EB0</sub>	Emitter - Base Voltage	4.0	V
I <sub>C</sub>	Collector Current	4	A
P <sub>tot</sub>	Total Power Dissipation	5.0	W
T <sub>stg</sub>	Storage Temperature	- 65 to + 150	°C
T <sub>j</sub>	Junction Temperature	< 200	°C

**THERMAL DATA**

R <sub>jc</sub>	Junction-case Thermal Resistance	35	°C/W
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NJ Semi-Conductors reserves the right to change test conditions, parameters 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.

**2N5944**

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

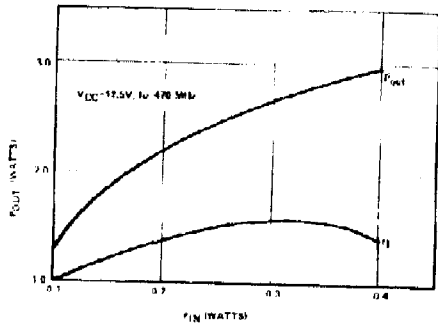
**STATIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$BV_{E-S}$	$I_C = 50\text{mA}$	$V_{E-S} = 0$	36			V
$BV_{CEO}$	$I_C = 50\text{mA}$	$I_B = 0$	16			V
$BV_{CE0}$	$I_C = 1\text{mA}$	$I_B = 0$	4			V
$I_{CE0}$	$V_{CE} = 15\text{V}$	$I_F = 0$			1	mA
$h_{FE}$	$V_{CE} = 5\text{V}$	$I_C = 0.1\text{A}$	20			

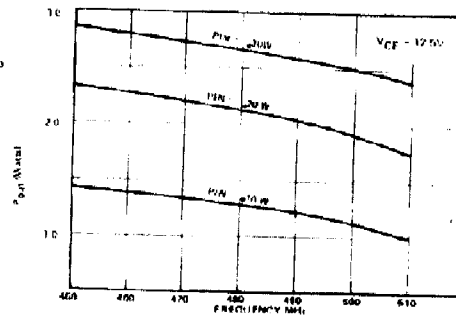
**DYNAMIC**

Symbol	Test Conditions		Value			Unit
			Min.	Typ.	Max.	
$P_D$	$f = 470\text{MHz}$	$V_{CE} = 12.5\text{V}$	2			W
$G_P$	$f = 470\text{MHz}$	$V_{CE} = 12.5\text{V}$	9			dB
$C_{CE}$	$f = 7\text{MHz}$	$V_{CE} = 12.5\text{V}$			15	dB

**APPLICATION INFORMATION** (typical curves)



**POWER OUTPUT VS POWER INPUT**



**POWER OUTPUT VS FREQUENCY**