

**Silicon PNP Darlington Power Transistor**

**2SB1490**

**DESCRIPTION**

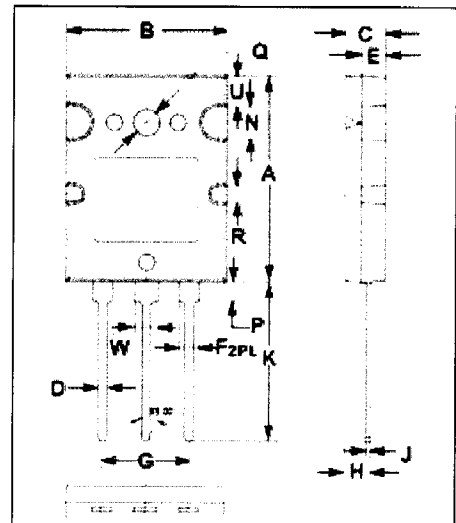
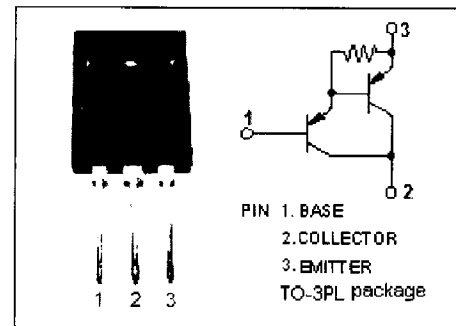
- High DC Current Gain-  
 :  $h_{FE} = 5000(\text{Min}) @ I_C = -6A$
- Low-Collector Saturation Voltage-  
 :  $V_{CE(\text{sat})} = -2.5V(\text{Max.}) @ I_C = -6A$
- Complement to Type 2SD2250

**APPLICATIONS**

- Designed for power amplifier applications
- Optimum for 80W HiFi output applications.

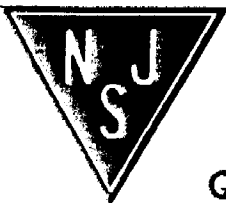
**ABSOLUTE MAXIMUM RATINGS ( $T_a = 25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-160	V
$V_{CEO}$	Collector-Emitter Voltage	-140	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-7	A
$I_{CM}$	Collector Current-Peak	-12	A
$P_C$	Collector Power Dissipation @ $T_c = 25^\circ\text{C}$	90	W
	Collector Power Dissipation @ $T_a = 25^\circ\text{C}$	3.5	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ\text{C}$



DIM	mm	
	MIN	MAX
A	25.50	26.50
B	19.80	20.20
C	4.50	5.50
D	0.90	1.10
E	2.80	3.20
F	2.40	2.60
G	10.80	11.00
H	3.10	3.30
J	0.50	0.70
K	20.00	21.00
N	3.90	4.10
P	2.40	2.60
Q	3.10	3.50
R	1.90	2.10
U	3.90	4.10
W	2.90	3.10

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## ELECTRICAL CHARACTERISTICS

$T_C=25^\circ\text{C}$  unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C = -30\text{mA}; I_B = 0$	-140			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -6\text{A}; I_B = -6\text{mA}$			-2.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -6\text{A}; I_B = -6\text{mA}$			-3.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -160\text{V}; I_E = 0$			-100	$\mu\text{A}$
$I_{CEO}$	Collector Cutoff Current	$V_{CE} = -140\text{V}; I_B = 0$			-100	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5\text{V}; I_C = 0$			-100	$\mu\text{A}$
$h_{FE-1}$	DC Current Gain	$I_C = -1\text{A}; V_{CE} = -5\text{V}$	2000			
$h_{FE-2}$	DC Current Gain	$I_C = -6\text{A}; V_{CE} = -5\text{V}$	5000		30000	
$f_T$	Current-Gain—Bandwidth Product	$I_C = -0.5\text{A}; V_{CE} = -10\text{V}$		20		MHz

### Switching Times

$t_{on}$	Turn-on Time	$I_C = -6\text{A}; I_{B1} = -I_{B2} = -6\text{mA}, V_{CC} = -50\text{V}$		1.0		$\mu\text{s}$
$t_{stg}$	Storage Time			1.5		$\mu\text{s}$
$t_f$	Fall Time			1.2		$\mu\text{s}$

### ◆ $h_{FE-2}$ Classifications

Q	P
5000-15000	8000-30000