

**Silicon PNP Darlington Power Transistor**

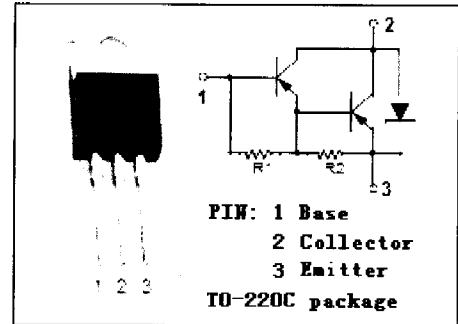
**2SB601**

**DESCRIPTION**

- High DC Current Gain-  
:  $h_{FE} = 2000(\text{Min}) @ I_C = -3A$
- Collector-Emitter Sustaining Voltage-  
:  $V_{CEO(\text{SUS})} = -100V(\text{Min})$
- Low Collector-Emitter Saturation Voltage-  
:  $V_{CE(\text{sat})} = -1.5V(\text{Max}) @ I_C = -3A$

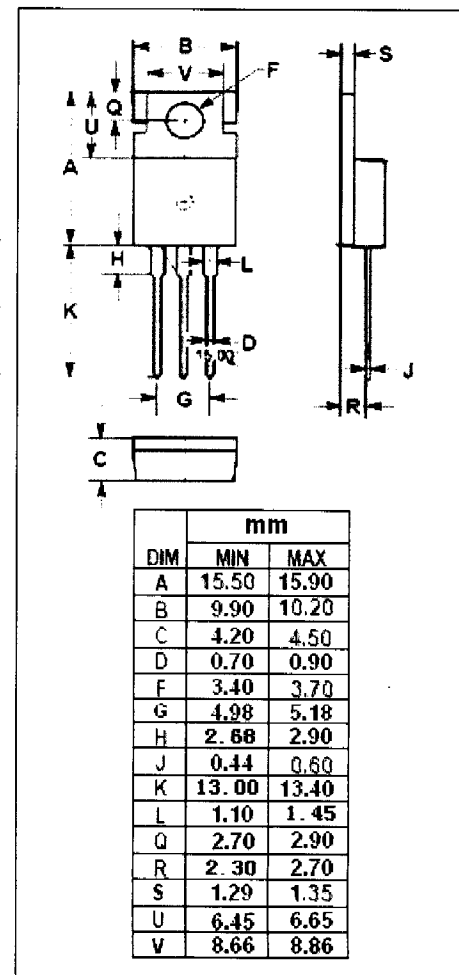
**APPLICATIONS**

- Designed for use in low-frequency power amplifiers and low-speed switching applications.
- Ideal for use in direct drive from IC output for magnet drivers such as terminal equipment or cash registers.

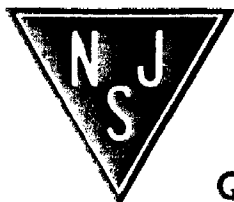


**ABSOLUTE MAXIMUM RATINGS (Ta=25°C)**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-100	V
$V_{CEO}$	Collector-Emitter Voltage	-100	V
$V_{EBO}$	Emitter-Base Voltage	-7	V
$I_C$	Collector Current-Continuous	-5	A
$I_{CM}$	Collector Current-Peak	-8	A
$I_B$	Base Current-DC	-0.5	A
$P_C$	Collector Power Dissipation $T_C=25^\circ\text{C}$	30	W
	Collector Power Dissipation $T_a=25^\circ\text{C}$	1.5	
$T_j$	Junction Temperature	150	°C
$T_{stg}$	Storage Temperature Range	-55~150	°C



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# 2SB601

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = -3A, I_B = -3mA$			-1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = -3A, I_B = -3mA$			-2.0	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB} = -100V, I_E = 0$			-10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB} = -5V, I_C = 0$			-3	mA
$h_{FE-1}$	DC Current Gain	$I_C = -3A, V_{CE} = -2V$	2000		15000	
$h_{FE-2}$	DC Current Gain	$I_C = -5A, V_{CE} = -2V$	500			

### Switching times

$t_{on}$	Turn-on Time	$R_L = 17\Omega, V_{CC} \approx -50V$ $I_C = -3A; I_{B1} = -I_{B2} = -3mA$		0.5		$\mu\text{s}$
$t_{stg}$	Storage Time			1.0		$\mu\text{s}$
$t_f$	Fall Time			1.0		$\mu\text{s}$

### ◆ $h_{FE-1}$ Classifications

M	L	K
2000-5000	3000-7000	5000-15000