

**Silicon PNP Power Transistor**

**2SA1771**

**DESCRIPTION**

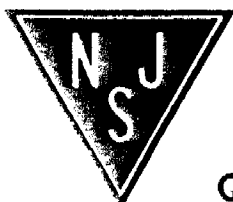
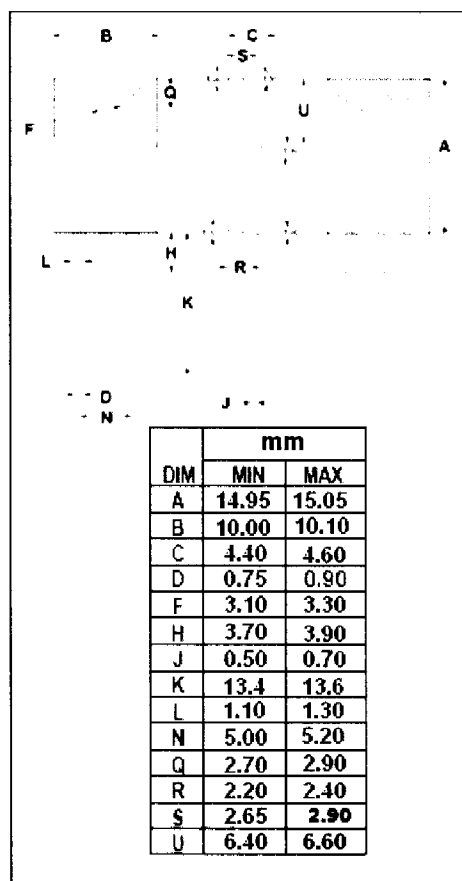
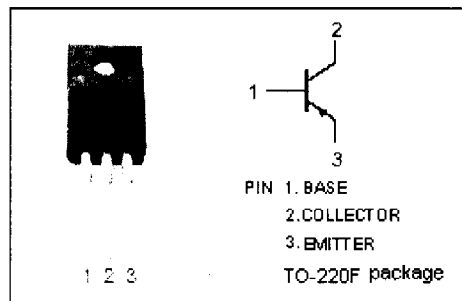
- Collector-Emitter Breakdown Voltage-  
 :  $V_{(BR)CEO} = -80V(\text{Min})$
- Low Collector Saturation Voltage-  
 :  $V_{CE(sat)} = -0.4V(\text{Max}) @ I_C = -6A$

**APPLICATIONS**

- Designed for high current switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-80	V
$V_{CEO}$	Collector-Emitter Voltage	-80	V
$V_{EBO}$	Emitter-Base Voltage	-14	V
$I_C$	Collector Current-Continuous	-12	A
$I_B$	Base Current-Continuous	-1.2	A
$P_C$	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	30	W
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



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## ELECTRICAL CHARACTERISTICS

T<sub>j</sub>=25°C unless otherwise specified

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
V <sub>(BR)CEO</sub>	Collector-Emitter Breakdown Voltage	I <sub>C</sub> = -50mA; I <sub>B</sub> = 0	-80			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -6A; I <sub>B</sub> = -0.3A			-0.4	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -6A; I <sub>B</sub> = -0.3A			-1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -80V; I <sub>E</sub> = 0			-10	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -14V; I <sub>C</sub> = 0			-10	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -1A; V <sub>CE</sub> = -1V	100		320	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -6A; V <sub>CE</sub> = -1V	40			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -1A; V <sub>CE</sub> = -5V		50		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> =0; V <sub>CB</sub> = -10V; f= 1.0MHz		300		pF

### Switching times

t <sub>on</sub>	Turn-on Time	R <sub>L</sub> = 5Ω, V <sub>CC</sub> = -30V I <sub>B1</sub> = -I <sub>B2</sub> = -0.3A,		0.2		μ s
t <sub>stg</sub>	Storage Time			0.6		μ s
t <sub>f</sub>	Fall Time			0.1		μ s