

**Silicon PNP Power Transistor**

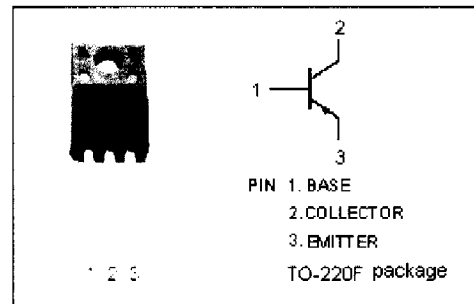
**2SA1307**

**DESCRIPTION**

- Low Collector Saturation Voltage-  
 $V_{CE(sat)} = -0.4V(\text{Max.}) @ I_C = -3A$
- High Switching Speed
- Complement to Type 2SC3299

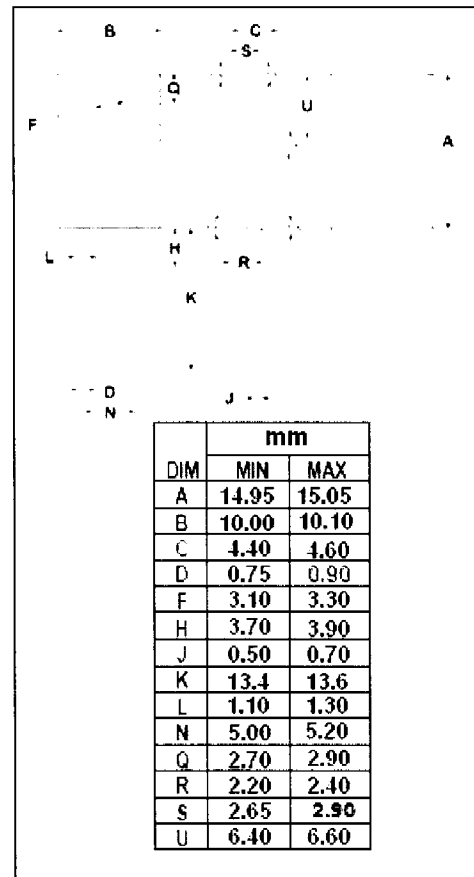
**APPLICATIONS**

- Designed for high current switching applications.

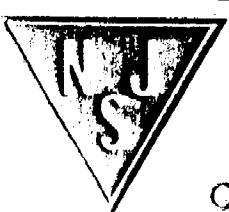


**ABSOLUTE MAXIMUM RATINGS( $T_a=25^\circ\text{C}$ )**

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	-60	V
$V_{CEO}$	Collector-Emitter Voltage	-50	V
$V_{EBO}$	Emitter-Base Voltage	-5	V
$I_C$	Collector Current-Continuous	-5	A
$I_B$	Base Current-Continuous	-1	A
$P_C$	Collector Power Dissipation @ $T_a=25^\circ\text{C}$	2	W
	Collector Power Dissipation @ $T_C=25^\circ\text{C}$	20	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



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## 2SA1307

### 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> = -10mA; I <sub>B</sub> = 0	-50			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = -3A; I <sub>B</sub> = -0.15A			-0.4	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = -3A; I <sub>B</sub> = -0.15A			-1.2	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = -50V; I <sub>E</sub> = 0			-1.0	μ A
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = -5V; I <sub>C</sub> = 0			-1.0	μ A
h <sub>FE-1</sub>	DC Current Gain	I <sub>C</sub> = -1A; V <sub>CE</sub> = -1V	70		240	
h <sub>FE-2</sub>	DC Current Gain	I <sub>C</sub> = -3A; V <sub>CE</sub> = -1V	30			
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = -1A; V <sub>CE</sub> = -4V		60		MHz
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = -10V; f= 1MHz		170		pF

### Switching Times

t <sub>on</sub>	Turn-On Time	I <sub>B1</sub> = -I <sub>B2</sub> = -0.15A; V <sub>CC</sub> = -30V; R <sub>L</sub> = 10Ω ; Duty Cycle ≤ 1%		0.1		μ s
t <sub>stg</sub>	Storage Time			1.0		μ s
t <sub>f</sub>	Fall Time			0.1		μ s

### ◆ h<sub>FE-1</sub> Classifications

O	Y
70-140	120-240