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## Silicon NPN Power Transistor

## 2SC4881

### DESCRIPTION

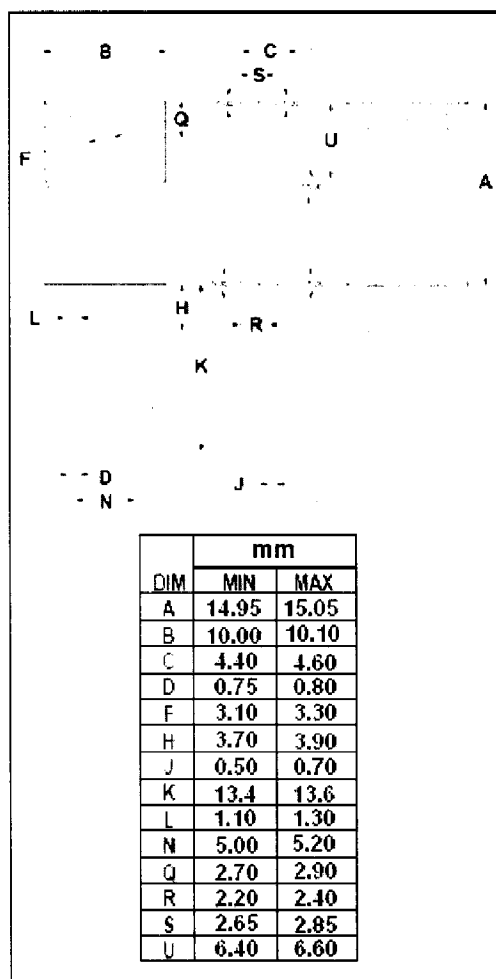
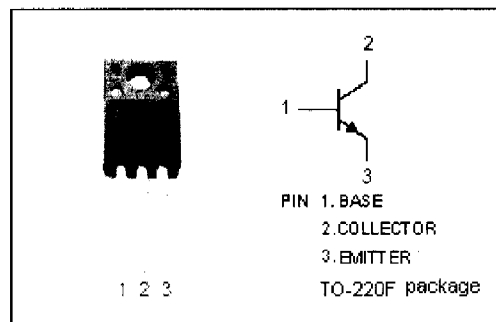
- Collector-Emitter Breakdown Voltage-  
:  $V_{(BR)CEO} = 50V(\text{Min})$
- High Switching Speed
- Low Collector Saturation Voltage-  
:  $V_{CE(sat)} = 0.4V(\text{Max}) @ (I_C = 2.5A, I_B = 125mA)$

### 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
$I_{CM}$	Collector Current-Pulse	8	A
$I_B$	Base Current-Continuous	1	A
$P_T$	Total Power Dissipation @ $T_C=25^\circ\text{C}$	20	W
	Total Power Dissipation @ $T_a=25^\circ\text{C}$	2.0	
$T_J$	Junction Temperature	150	$^\circ\text{C}$
$T_{stg}$	Storage Temperature	-55~150	$^\circ\text{C}$



NJ Semi-Conductors reserves the right to change test conditions, parameter 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.

**Quality Semi-Conductors**

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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> = 10mA; I <sub>B</sub> = 0	50			V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 125mA			0.4	V
V <sub>BE(sat)</sub>	Base-Emitter Saturation Voltage	I <sub>C</sub> = 2.5A; I <sub>B</sub> = 125mA			1.3	V
I <sub>CBO</sub>	Collector Cutoff Current	V <sub>CB</sub> = 50V; I <sub>E</sub> = 0			1	μA
I <sub>EBO</sub>	Emitter Cutoff Current	V <sub>EB</sub> = 6V; I <sub>C</sub> = 0			1	μA
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> = 2.5A; V <sub>CE</sub> = 1V	60			
C <sub>OB</sub>	Output Capacitance	I <sub>E</sub> = 0; V <sub>CB</sub> = 10V; f= 1.0MHz		45		pF
f <sub>T</sub>	Current-Gain—Bandwidth Product	I <sub>C</sub> = 1A; V <sub>CE</sub> = 4V		100		MHz

## Switching times

t <sub>on</sub>	Turn-on Time	R <sub>L</sub> = 12Ω, I <sub>B1</sub> = -I <sub>B2</sub> = 125mA, V <sub>CC</sub> = 30V		0.1		μs
t <sub>stg</sub>	Storage Time			0.8		μs
t <sub>f</sub>	Fall Time			0.1		μs