

# New Jersey Semi-Conductor Products, Inc.

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## Silicon NPN Power Transistor

## 2SC4511

### DESCRIPTION

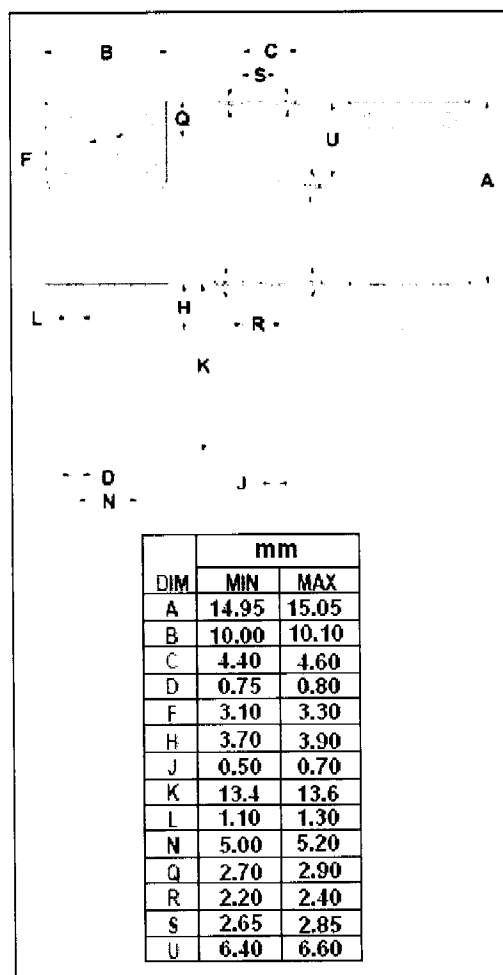
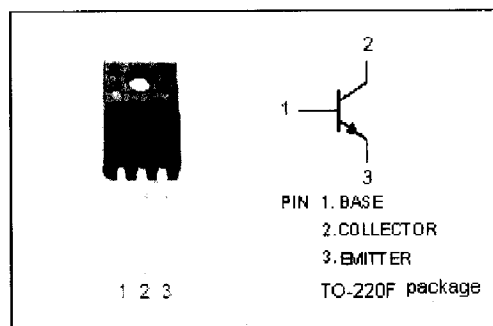
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 0.5(V)(Max) @ I_C = 2A$
- High Switching Speed
- Complement to Type 2SA1725

### APPLICATIONS

- Designed for audio and general purpose applications.

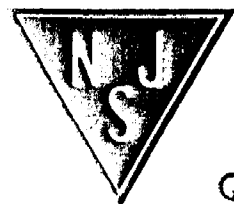
### ABSOLUTE MAXIMUM RATINGS( $T_a = 25^\circ C$ )

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	120	V
$V_{CEO}$	Collector-Emitter Voltage	80	V
$V_{EBO}$	Emitter-Base Voltage	6	V
$I_C$	Collector Current-Continuous	6	A
$I_B$	Base Current-Continuous	3	A
$P_C$	Total Power Dissipation @ $T_C = 25^\circ C$	30	W
$T_J$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



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

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{(BR)CEO}$	Collector-Emitter Breakdown Voltage	$I_C=25\text{mA}; I_B=0$	80			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=2\text{A}; I_B=0.2\text{A}$			0.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=120\text{V}; I_E=0$			10	$\mu\text{A}$
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=6\text{V}; I_C=0$			10	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$I_C=2\text{A}; V_{CE}=4\text{V}$	50		180	
$f_T$	Current-Gain—Bandwidth Product	$I_E=-0.5\text{A}; V_{CE}=12\text{V}$		20		MHz
$C_{OB}$	Output Capacitance	$I_E=0; V_{CB}=10\text{V}; f_{test}=1\text{MHz}$		110		pF

## Switching Times

$t_{on}$	Turn-on Time	$I_C=3\text{A}, R_L=10\Omega,$ $I_{B1}=-I_{B2}=0.3\text{A}, V_{CC}=30\text{V}$		0.16		$\mu\text{s}$
$t_{stg}$	Storage Time			2.60		$\mu\text{s}$
$t_f$	Fall Time			0.34		$\mu\text{s}$

◆  $h_{FE}$  Classifications

O	P	Y
50-100	70-140	90-180