

*New Jersey Semi-Conductor Products, Inc.*

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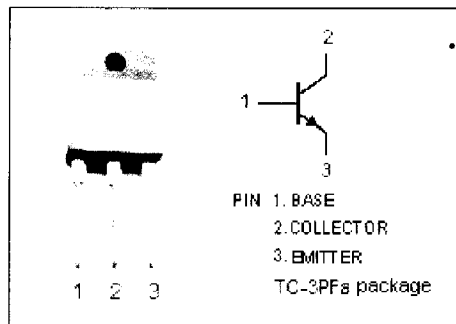
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**Silicon NPN Power Transistor**

**2SC3210**

**DESCRIPTION**

- Collector-Emitter Sustaining Voltage:  
 :  $V_{CE(SUS)} = 400V(\text{Min.})$
- Low Collector Saturation Voltage  
 :  $V_{CE(sat)} = 1.0V(\text{Max.}) @ I_C = 5A$
- High Speed Switching

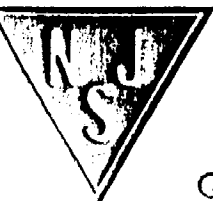
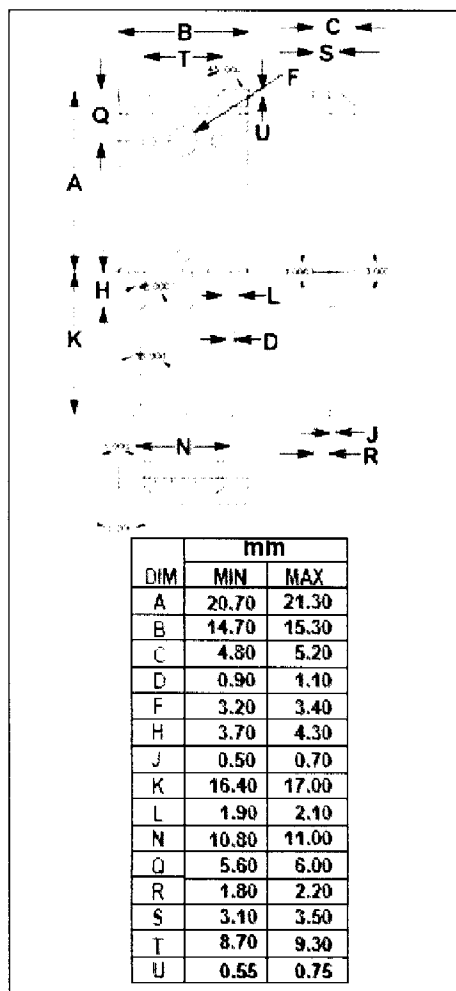


**APPLICATIONS**

- Designed for high speed switching applications.

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

SYMBOL	PARAMETER	VALUE	UNIT
$V_{CBO}$	Collector-Base Voltage	500	V
$V_{CEO}$	Collector-Emitter Voltage	400	V
$V_{EBO}$	Emitter-Base Voltage	7	V
$I_C$	Collector Current-Continuous	10	A
$I_{CM}$	Collector Current-Peak	20	A
$I_B$	Base Current-Continuous	5	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ C$	3	W
	Collector Power Dissipation @ $T_C = 25^\circ C$	100	
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



NJ Semi-Condutors reserves the right to change test conditions, parameter limits and package dimensions without notice. Information furnished by NJ Semi-Condutors is believed to be both accurate and reliable at the time of going to press. However, NJ Semi-Condutors assumes no responsibility for any errors or omissions discovered in its use. NJ Semi-Condutors encourages customers to verify that datasheets are current before placing orders.

**Quality Semi-Conductors**

## Silicon NPN Power Transistor

## 2SC3210

## ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN	TYP.	MAX	UNIT
$V_{CEO(SUS)}$	Collector-Emitter Sustaining Voltage	$I_C=0.2\text{A}$ ; $L=25\text{mH}$	400			V
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C=5\text{A}$ ; $I_B=1\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=5\text{A}$ ; $I_B=1\text{A}$			1.5	V
$I_{CBO}$	Collector Cutoff Current	$V_{CB}=500\text{V}$ ; $I_E=0$			0.1	mA
$I_{EBO}$	Emitter Cutoff Current	$V_{EB}=5\text{V}$ ; $I_C=0$			0.1	mA
$h_{FE-1}$	DC Current Gain	$I_C=0.1\text{A}$ ; $V_{CE}=5\text{V}$	15			
$h_{FE-2}$	DC Current Gain	$I_C=5\text{A}$ ; $V_{CE}=5\text{V}$	8			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.5\text{A}$ ; $V_{CE}=10\text{V}$		11		MHz

## Switching Times; Resistive Load

$t_{on}$	Turn-on Time	$I_C=5\text{A}$ ; $I_{B1}=-I_{B2}=1\text{A}$ ; $V_{CC}=100\text{V}$			1.0	$\mu\text{s}$
$t_s$	Storage Time				2.5	$\mu\text{s}$
$t_f$	Fall Time				1.0	$\mu\text{s}$