

**Silicon NPN Power Transistor**

**2SC3169**

**DESCRIPTION**

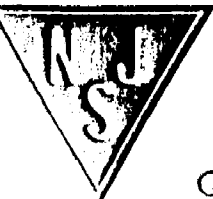
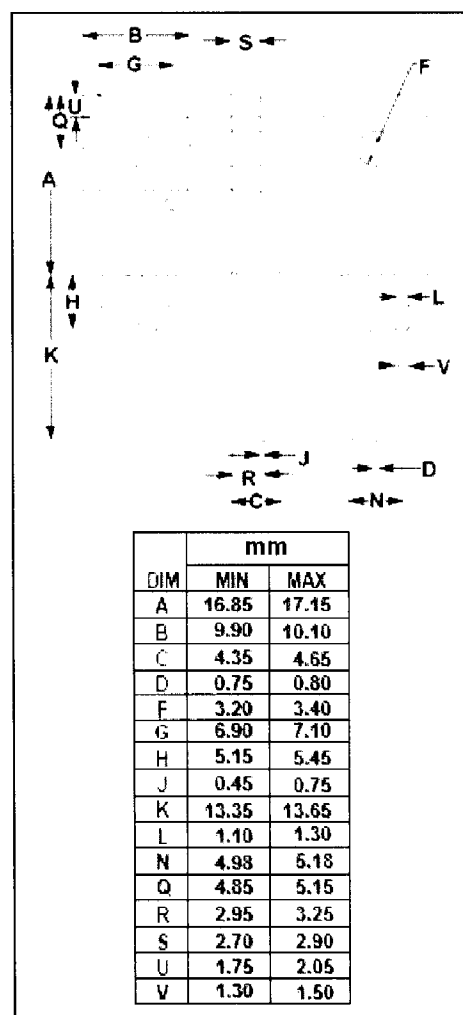
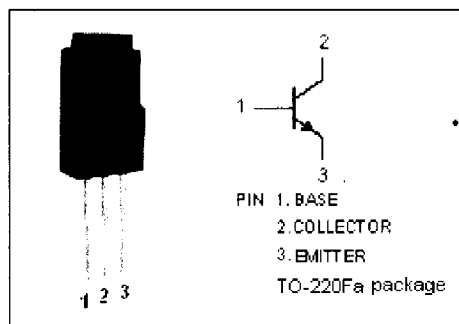
- Collector-Emitter Sustaining Voltage-  
:  $V_{CE(SUS)} = 400V(\text{Min.})$
- Low Collector Saturation Voltage  
:  $V_{CE(sat)} = 1.0V(\text{Max.}) @ I_C = 1A$
- High Speed Switching

**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	2	A
$I_{CM}$	Collector Current-Peak	4	A
$P_C$	Collector Power Dissipation @ $T_a = 25^\circ C$	2	W
	Collector Power Dissipation @ $T_C = 25^\circ C$	25	
$T_j$	Junction Temperature	150	$^\circ C$
$T_{stg}$	Storage Temperature Range	-55~150	$^\circ C$



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### 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	$I_C=1\text{A}$ ; $I_B=0.2\text{A}$			1.0	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C=1\text{A}$ ; $I_B=0.2\text{A}$			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	$I_C=1\text{A}$ ; $V_{CE}=5\text{V}$	8			
$f_T$	Current-Gain—Bandwidth Product	$I_C=0.2\text{A}$ ; $V_{CE}=10\text{V}$		8		MHz

Switching Times; Resistive Load

$t_{on}$	Turn-on Time	$I_C=1\text{A}$ ; $I_{B1}=-I_{B2}=0.2\text{A}$ ; $V_{CC}=100\text{V}$			1.0	$\mu\text{s}$
$t_s$	Storage Time				3.0	$\mu\text{s}$
$t_f$	Fall Time				1.0	$\mu\text{s}$