



# 2N5551

## NPN SILICON TRANSISTOR

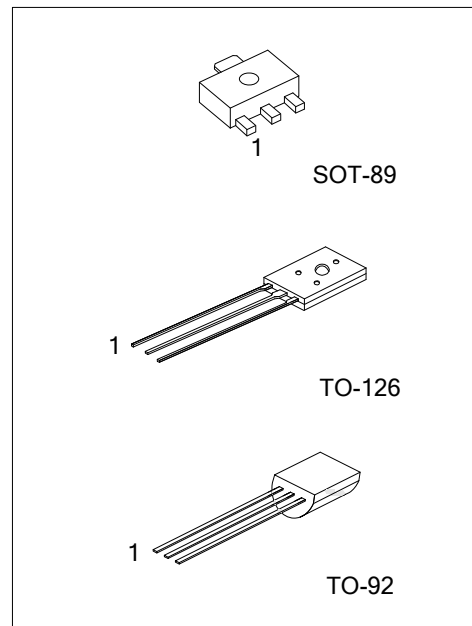
### HIGH VOLTAGE SWITCHING TRANSISTOR

■ FEATURES

- \* High collector-emitter voltage:  
V<sub>CEO</sub>=160V
- \* High current gain

■ APPLICATIONS

- \* Telephone switching circuit
- \* Amplifier



■ ORDERING INFORMATION

Ordering Number		Package	Pin Assignment			Packing
Lead Free	Halogen Free		1	2	3	
-	2N5551G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2N5401L-T60-K	2N5401G-T60-K	TO-126	E	C	B	Bulk
2N5551L-x-T92-B	2N5551G-x-T92-B	TO-92	E	B	C	Tape Box
2N5551L-x-T92-K	2N5551G-x-T92-K	TO-92	E	B	C	Bulk
2N5551L-x-T92-A-B	2N5551G-x-T92-A-B	TO-92	E	C	B	Tape Box
2N5551L-x-T92-A-K	2N5551G-x-T92-A-K	TO-92	E	C	B	Bulk

Note: Pin Assignment: B: Base C: Collector E: Emitter

<p>2N5551L-x-T92-A-B</p> <p>(1)Packing Type (2)Pin Assignment (3)Package Type (4)Rank (5)Green Package</p>	<p>(1) B: Tape Box, K: Bulk, R: Tape Reel (2) refer to Pin Assignment (3) AB3: SOT-89, T60: TO-126, T92: TO-92 (4) x: refer to Classification of h<sub>FE2</sub> (5) L: Lead Free, G: Halogen Free and Lead Free</p>
--	--

■ MARKING

SOT-89	TO-126	TO-92

■ ABSOLUTE MAXIMUM RATINGS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Collector-Base Voltage		$V_{CBO}$	180	V
Collector-Emitter Voltage		$V_{CEO}$	160	V
Emitter-Base Voltage		$V_{EBO}$	6	V
Collector Dissipation	TO-92	$P_C$	625	mW
	TO-126		1500	mW
	SOT-89		500	mW
Collector Current		$I_C$	600	mA
Junction Temperature		$T_J$	+150	$^\circ\text{C}$
Storage Temperature		$T_{STG}$	-55 ~ +150	$^\circ\text{C}$

Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ( $T_A=25^\circ\text{C}$ , unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Collector-Base Breakdown Voltage	$BV_{CBO}$	$I_C=100\mu\text{A}, I_E=0$	180			V
Collector-Emitter Breakdown Voltage	$BV_{CEO}$	$I_C=1\text{mA}, I_B=0$	160			V
Emitter-Base Breakdown Voltage	$BV_{EBO}$	$I_E=10\mu\text{A}, I_C=0$	6			V
Collector Cut-off Current	$I_{CBO}$	$V_{CB}=120\text{V}, I_E=0$			50	nA
Emitter Cut-off Current	$I_{EBO}$	$V_{BE}=4\text{V}, I_C=0$			50	nA
DC Current Gain(Note)	$h_{FE1}$	$V_{CE}=5\text{V}, I_C=1\text{mA}$	80			
	$h_{FE2}$	$V_{CE}=5\text{V}, I_C=10\text{mA}$	80	160	400	
	$h_{FE3}$	$V_{CE}=5\text{V}, I_C=50\text{mA}$	80			
Collector-Emitter Saturation Voltage	$V_{CE(SAT)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.15	V
		$I_C=50\text{mA}, I_B=5\text{mA}$			0.2	V
Base-Emitter Saturation Voltage	$V_{BE(SAT)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			1	V
		$I_C=50\text{mA}, I_B=5\text{mA}$			1	V
Current Gain Bandwidth Product	$f_T$	$V_{CE}=10\text{V}, I_C=10\text{mA}, f=100\text{MHz}$	100		300	MHz
Output Capacitance	$C_{OB}$	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$			6.0	pF
Noise Figure	NF	$I_C=0.25\text{mA}, V_{CE}=5\text{V}$ $R_S=1\text{k}\Omega, f=10\text{Hz} \sim 15.7\text{kHz}$			8	dB

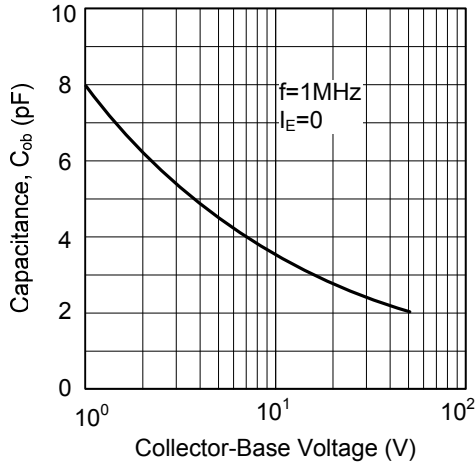
Note: Pulse test:  $PW < 300\mu\text{s}$ , Duty cycle  $< 2\%$

■ CLASSIFICATION OF  $h_{FE2}$

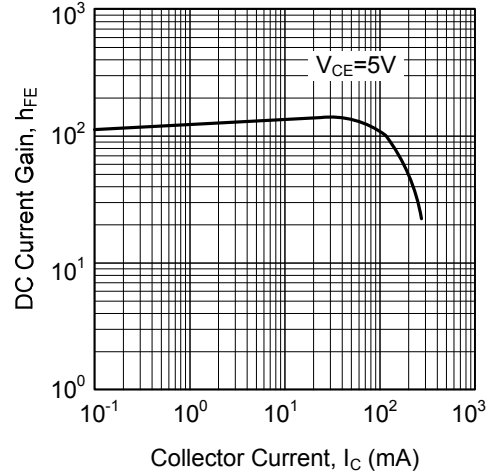
RANK	A	B	C
RANGE	80-170	150-240	200-400

### TYPICAL CHARACTERISTICS

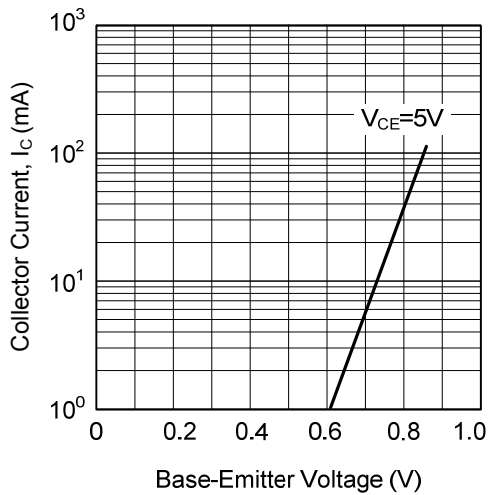
Collector Output Capacitance



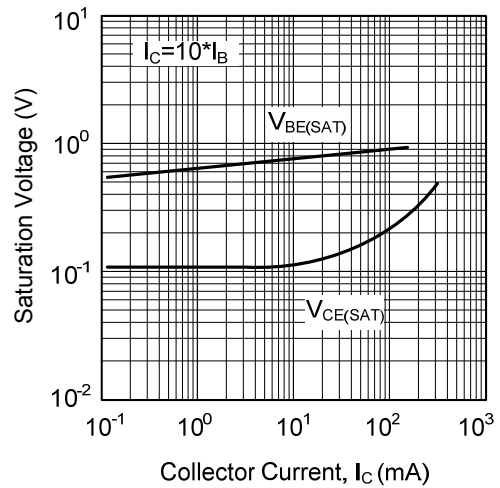
DC Current Gain



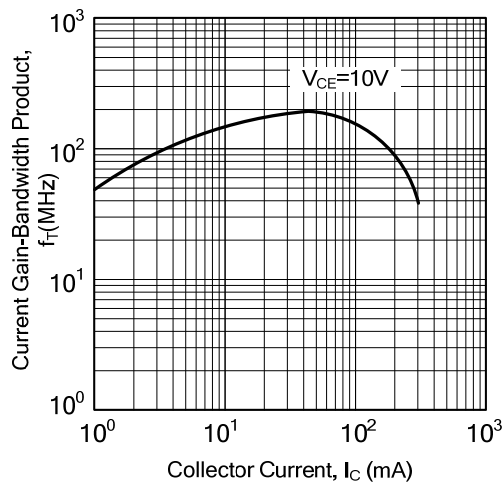
Base-Emitter on Voltage



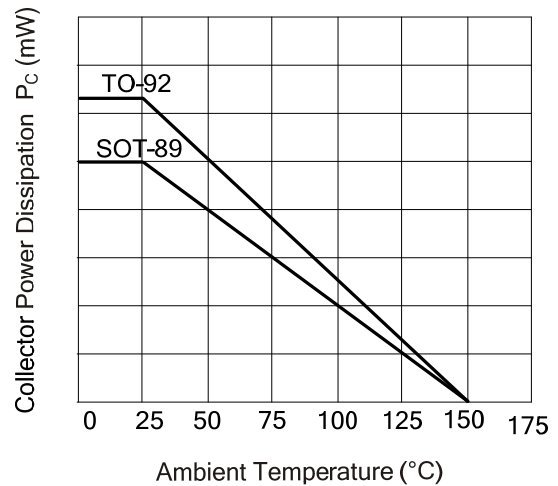
Saturation Voltage



Current Gain-Bandwidth Product



$P_C - T_A$



UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.