

# 2N5551

## NPN SILICON TRANSISTOR

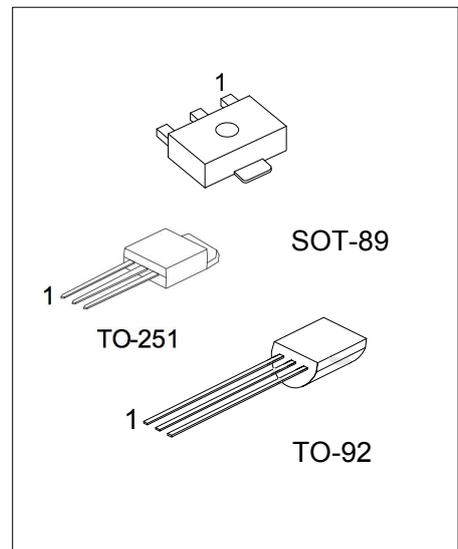
### HIGH VOLTAGE SWITCHING TRANSISTOR

#### ■ 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
Normal	Lead Free Plating	Halogen Free		1	2	3	
2N5551-x-AB3-R	2N5551L-x-AB3-R	2N5551G-x-AB3-R	SOT-89	B	C	E	Tape Reel
2N5551-x-T92-B	2N5551L-x-T92-B	2N5551G-x-T92-B	TO-92	E	B	C	Tape Box
2N5551-x-251-K	2N5551L-x-251-K	2N5551G-x-251	TO-251	E	B	C	Tube

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°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	$P_C$	625	mW
Collector Dissipation		500	mW
Collector Current	$I_C$	600	mA
Junction Temperature	$T_J$	+150	°C
Storage Temperature	$T_{STG}$	-55 ~ +150	°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 (Ta=25°C, unless otherwise specified)

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

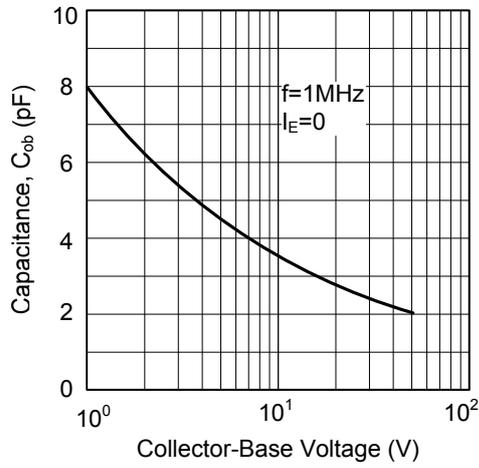
Note: Pulse test: PW<300μs, Duty cycle<2%

■ CLASSIFICATION OF  $h_{FE}$

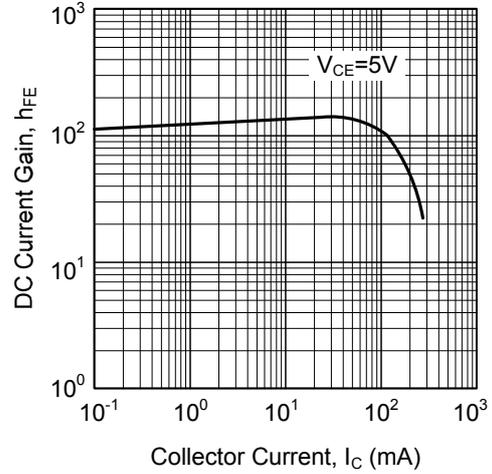
RANK	A	B	C
RANGE	80-170	150-240	200-400

■ TYPICAL CHARACTERISTICS

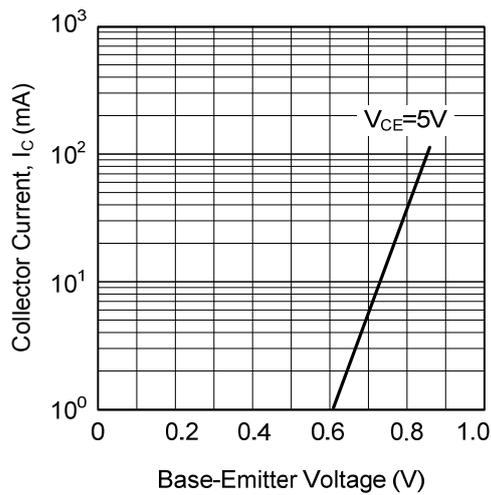
Collector Output Capacitance



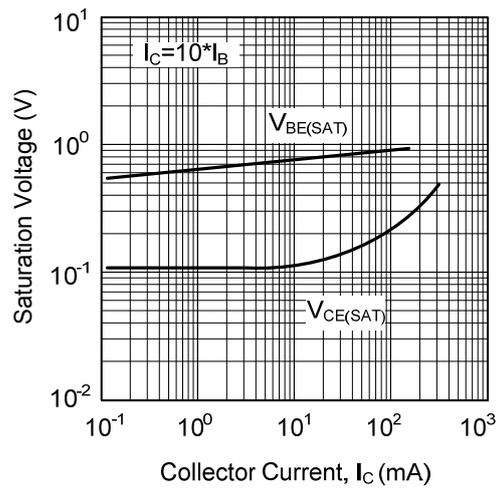
DC Current Gain



Base-Emitter on Voltage



Saturation Voltage



Current Gain-Bandwidth Product

