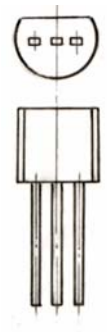
2N5551

TRANSISTOR (NPN)

FEATURES

- **Switching and amplification in high voltage**
- **Applications such as telephony**
- **Low current(max. 600mA)**
- **High voltage(max.180V)**

TO-92



1. EMITTER
2. BASE
3. COLLECTOR

1 2 3

MAXIMUM RATINGS (T_A=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	180	V
V_{CEO}	Collector-Emitter Voltage	160	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.6	A
P_C	Collector Power Dissipation	0.625	W
T_j	Junction Temperature	150	℃
T_{stg}	Storage Temperature	-55-150	℃

ELECTRICAL CHARACTERISTICS(Tamb=25℃ unless otherwise specified)

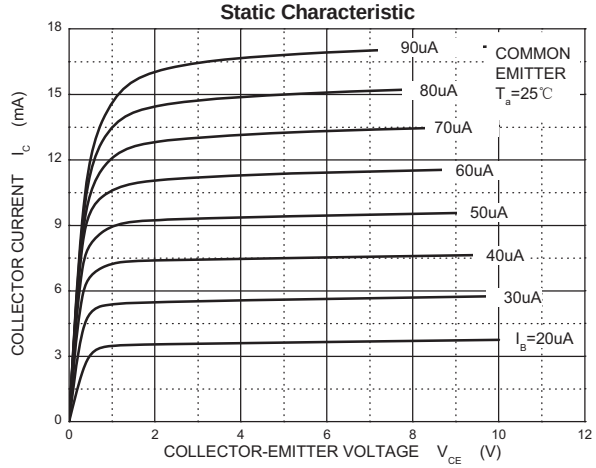
Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	180			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$*	I_C= 1mA, I_B=0	160			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= 10μA, I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}= 120V, I_E=0			50	nA
Emitter cut-off current	I_{EBO}	V_{EB}= 4V, I_C=0			50	nA
DC current gain	h_{FE1}*	V_{CE}=5V, I_C=1mA	80			
	h_{FE2}*	V_{CE}=5V, I_C =10mA	80		250	
	h_{FE3}	V_{CE}=5V, I_C=50mA	30			
Collector-emitter saturation voltage	V_{CEsat}*	I_C=10mA, I_B=1mA			0.15	V
		I_C=50mA, I_B=5mA			0.2	
Base-emitter saturation voltage	V_{BEsat}*	I_C=10mA, I_B= 1mA			1	V
		I_C=50mA, I_B= 5mA			1	
Transition frequency	f_T	V_{CE}=10V,I_C=10mA,f=100MHz	100		300	MHz
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz			6	pF
Input capacitance	C_{ib}	V_{BE}=0.5V,I_C=0,f=1MHz			20	pF
Noise figure	NF	V_{CE}=5V,I_c=0.25mA, f=10Hz to 15.7KHz,Rs=1kΩ			8	dB

CLASSIFICATION OF $h_{FE(2)}$

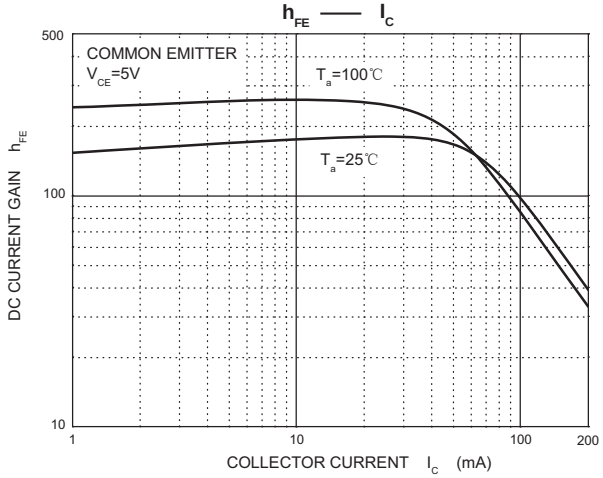
RANK	A	B	C
RANGE	100-150	150-200	200-300

Typical Characteristics

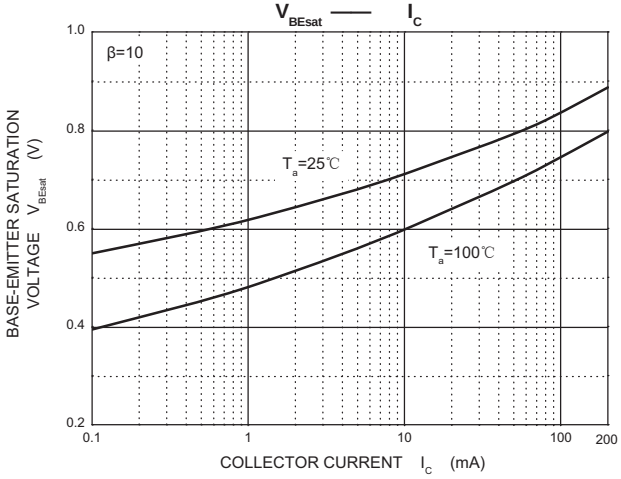
Static Characteristic



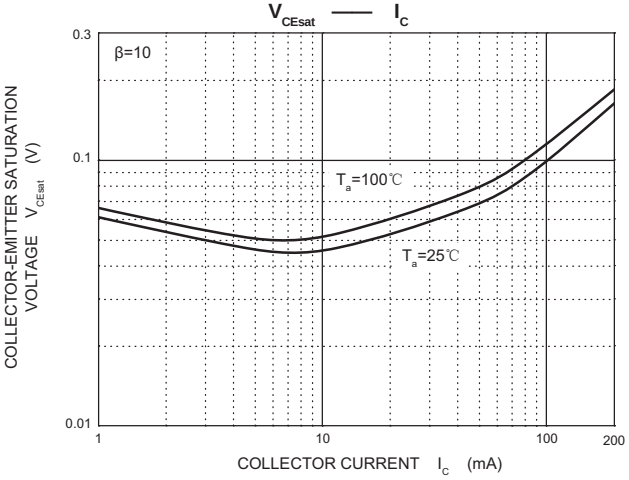
h_FE —— I_C



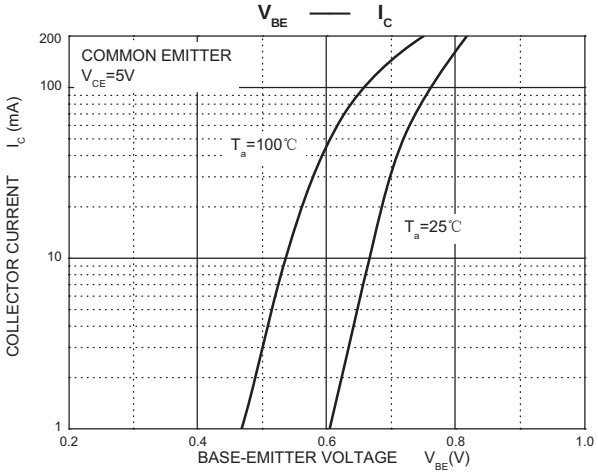
V_BEsat —— I_C



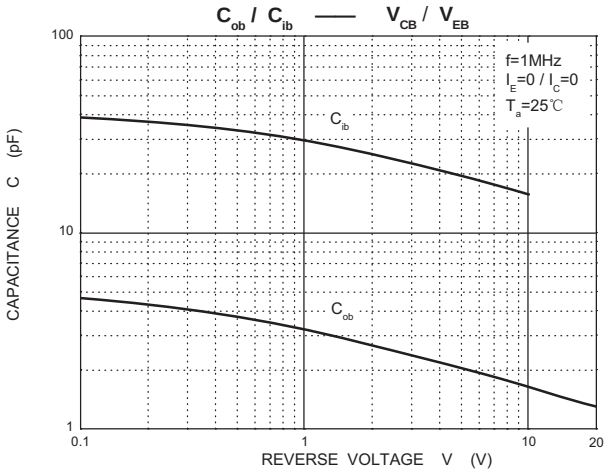
V_CEsat —— I_C



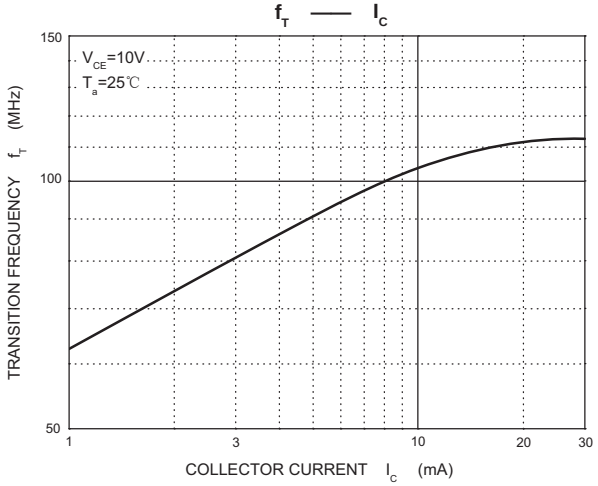
V_BE —— I_C



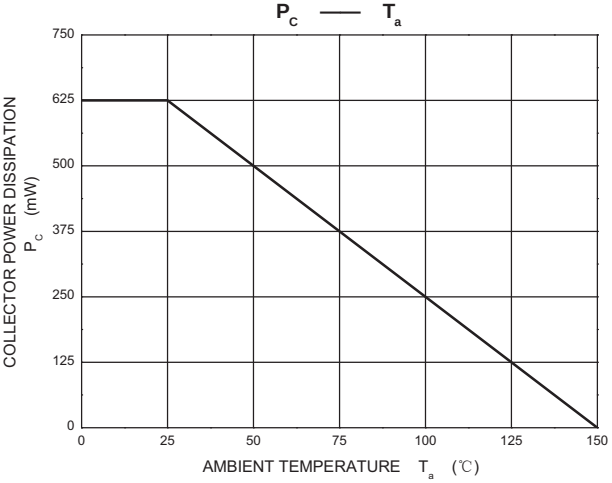
C_ob / C_ib —— V_CB / V_EB

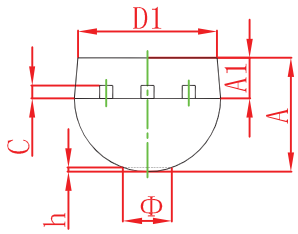


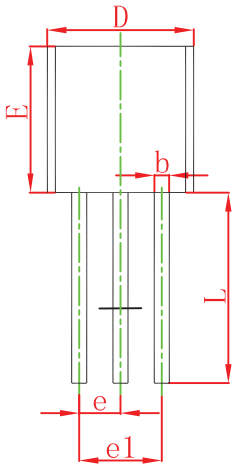
f_T —— I_C



P_C —— T_a

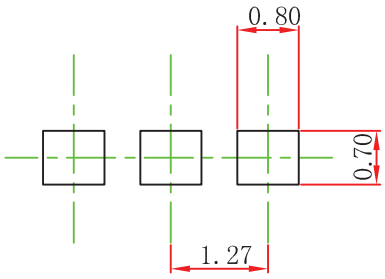






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	3.300	3.700	0.130	0.146
A1	1.100	1.400	0.043	0.055
b	0.380	0.550	0.015	0.022
c	0.360	0.510	0.014	0.020
D	4.300	4.700	0.169	0.185
D1	3.430		0.135	
E	4.300	4.700	0.169	0.185
e	1.270 TYP		0.050 TYP	
e1	2.440	2.640	0.096	0.104
L	14.100	14.500	0.555	0.571
Φ		1.600		0.063
h	0.000	0.380	0.000	0.015

TO-92 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.