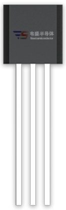
S8550 TRANSISTOR (PNP)

FEATURE

- Excellent h_{FE} Linearity



1.EMITTER
2.COLLECTOR
3.BASE

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
S8550	TO-92	Bulk	1000pcs/Bag
S8550-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

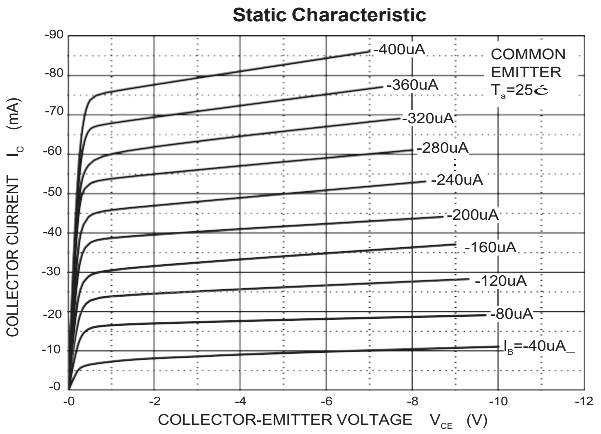
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-25	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current -Continuous	-0.5	A
P_D	Collector Power Dissipation	625	mW
$R_{\theta JA}$	Thermal Resistance)rom Junction to Ambient	200	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

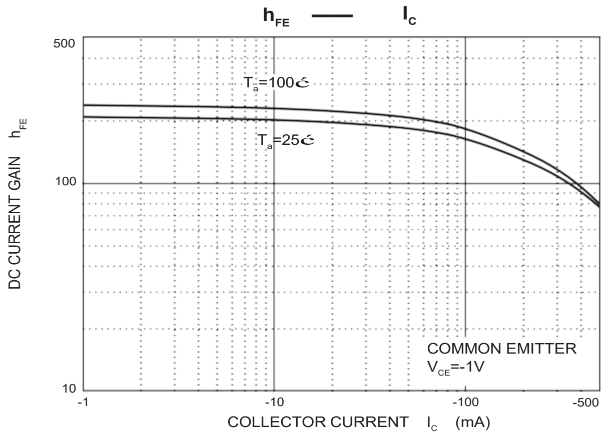
T_a=25℃ unless otherwise specified

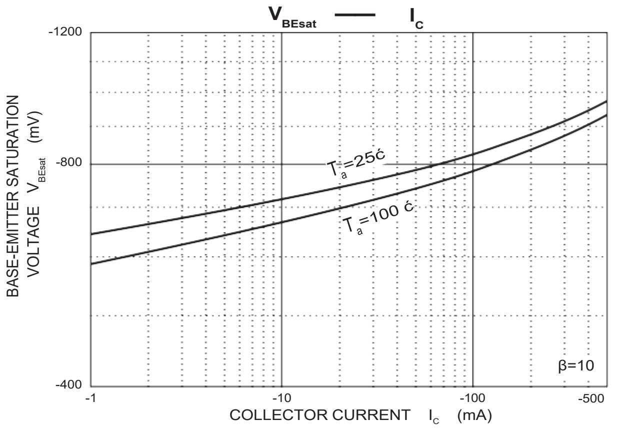
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= -100uA, I_E=0	-40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C= -1mA, I_B=0	-25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E= -100uA, I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}= -40V, I_E=0			-0.1	uA
Collector cut-off current	I_{CEO}	V_{CE}= -20V, I_B=0			-0.1	uA
Emitter cut-off current	I_{EBO}	V_{EB}= - 3V, I_C=0			-0.1	uA
DC current gain	$h_{FE(1)}$	V_{CE}= -1V, I_C= -50mA	85		400	
	$h_{FE(2)}$	V_{CE}= -1V, IC= -500mA	50			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-50mA			-0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=-500mA, I_B=-50mA			-1.2	V
Transition frequency	f_T	V_{CE}=- 6V, I_C=-20mA, f =30MHz	150			MHz

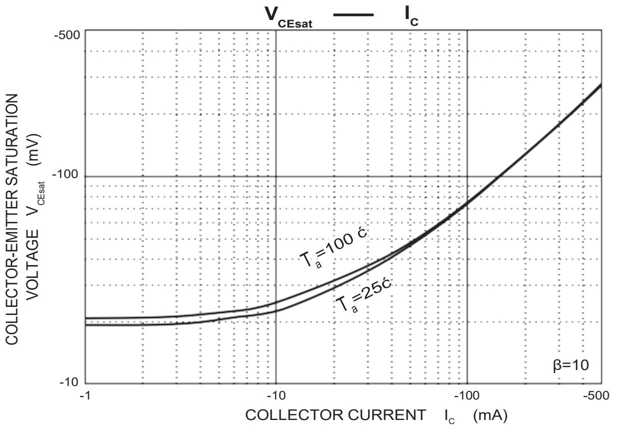
CLASSIFICATION OF $h_{FE(1)}$

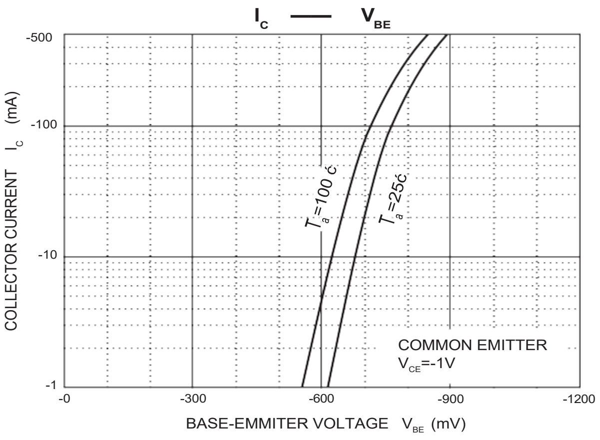
Rank	B	C	D	D3
Range	85-160	120-200	160- 300	300- 400

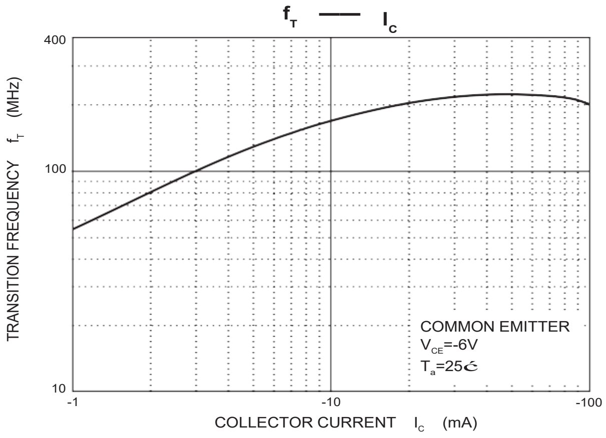

Static Characteristic
COMMON EMITTER
T_a=25℃
-400uA
-360uA
-320uA
-280uA
-240uA
-200uA
-160uA
-120uA
-80uA
I_B=-40uA
-90
-80
-70
-60
-50
-40
-30
-20
-10
-0
-0
-2
-4
-6
-8
-10
-12
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_{CE} (V)

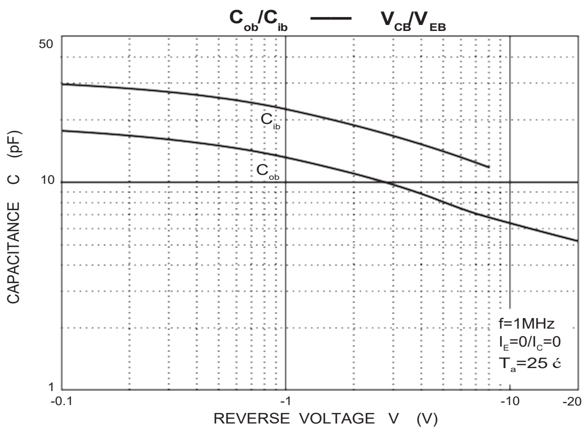

h_{FE} — I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}=-1V
500
100
10
-1
-10
-100
-500
DC CURRENT GAIN h_{FE}
COLLECTOR CURRENT I_C (mA)

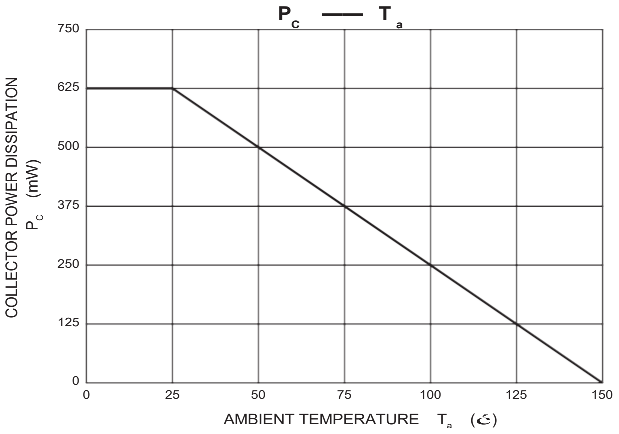

V_{BEsat} — I_C
T_a=25℃
T_a=100℃
β=10
-1200
-800
-400
-1
-10
-100
-500
BASE-EMITTER SATURATION VOLTAGE V_{BEsat} (mV)
COLLECTOR CURRENT I_C (mA)


V_{CEsat} — I_C
T_a=100℃
T_a=25℃
β=10
-500
-100
-10
-1
-10
-100
-500
COLLECTOR-EMITTER SATURATION VOLTAGE V_{CEsat} (mV)
COLLECTOR CURRENT I_C (mA)


I_C — V_{BE}
T_a=100℃
T_a=25℃
COMMON EMITTER
V_{CE}=-1V
-500
-100
-10
-1
-0
-300
-600
-900
-1200
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_{BE} (mV)


f_T — I_C
COMMON EMITTER
V_{CE}=-6V
T_a=25℃
400
100
10
-1
-10
-100
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


C_{ob}/C_{ib} — V_{CB}/V_{EB}
C_{ib}
C_{ob}
f=1MHz
I_E=0/I_C=0
T_a=25℃
50
10
1
-0.1
-1
-10
-20
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
750
625
500
375
250
125
0
0
25
50
75
100
125
150
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)