2SC1623 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-23-3

FEATURES

- High DC current gain :h_{FE}=200(Typ) V_{CE}=6V,I_C=1mA
- High voltage:V_{CEO}=50V

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

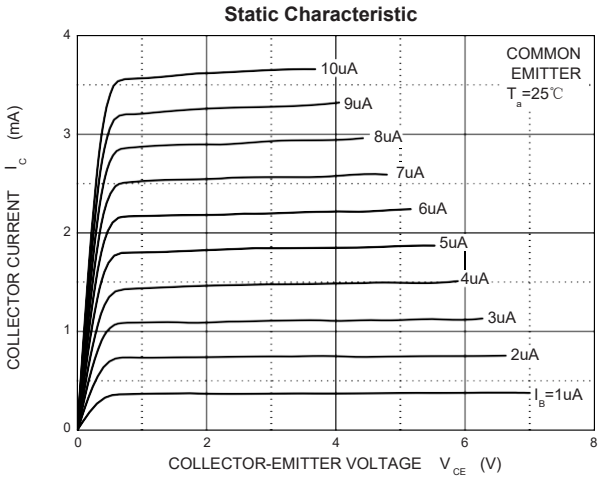
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	60	V
V_{CEO}	Collector-Emitter Voltage	50	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	100	mA
P_C	Collector Power Dissipation	200	mW
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	625	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55～+150	℃

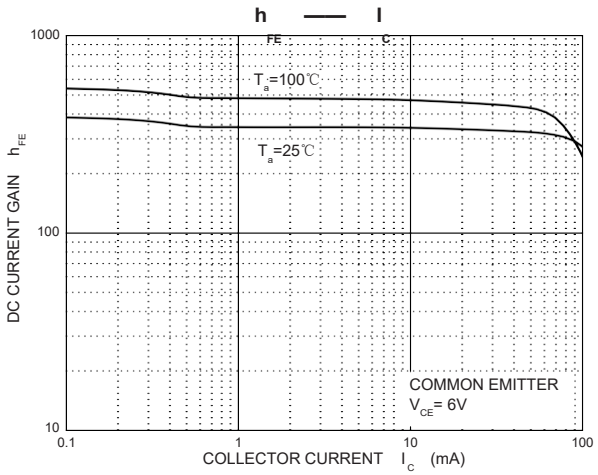
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

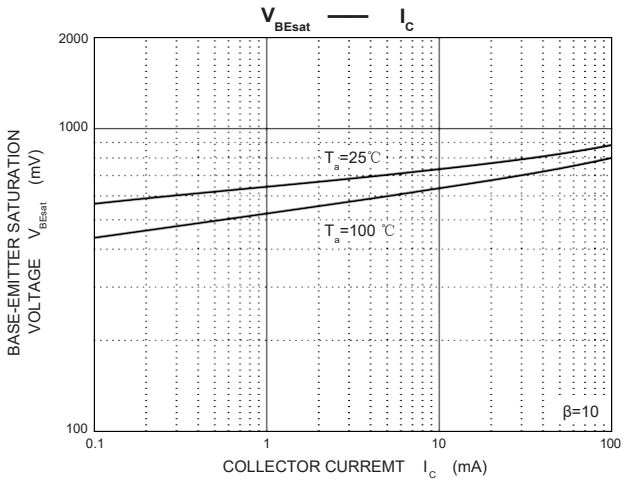
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100μA,I_E=0	60			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=60V,I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V,I_C=0			0.1	μA
DC current gain	h_{FE}	V_{CE}=6V,I_C=1mA	90	200	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=100mA,I_B=10mA			0.3	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=100mA,I_B=10mA			1	V
Transition frequency	f_T	V_{CE}=6V,I_C=10mA		250		MHz

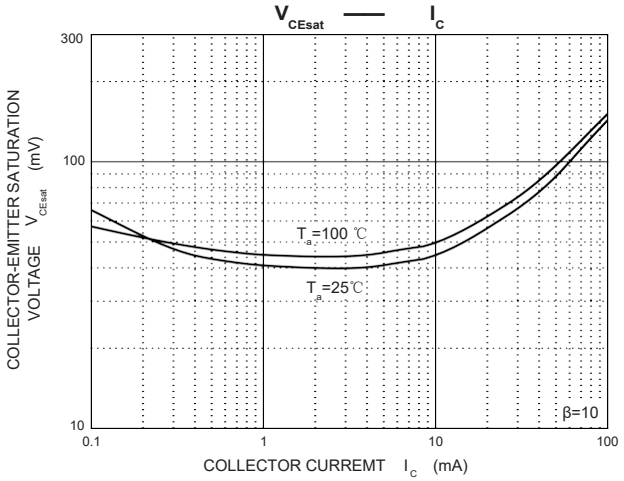
CLASSIFICATION OF h_{FE}

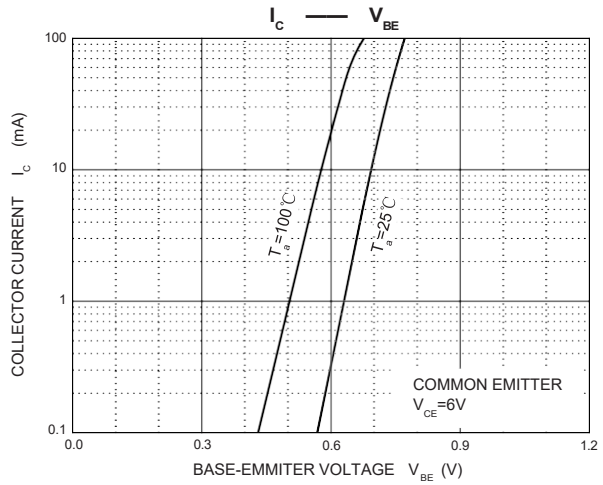
Rank	L4	L5	L6	L7
Range	90-180	135-270	200-400	300-600
Marking	L4	L5	L6	L7

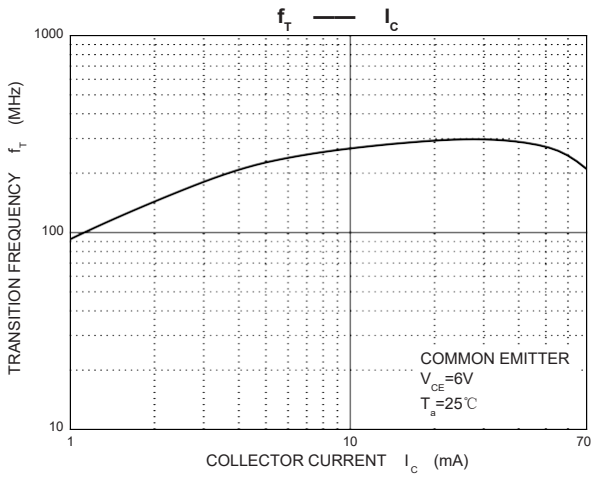

Static Characteristic
COMMON EMITTER
T_a=25℃
10uA
9uA
8uA
7uA
6uA
5uA
4uA
3uA
2uA
I_B=1uA
COLLECTOR CURRENT I_C (mA)
COLLECTOR-EMITTER VOLTAGE V_CE (V)

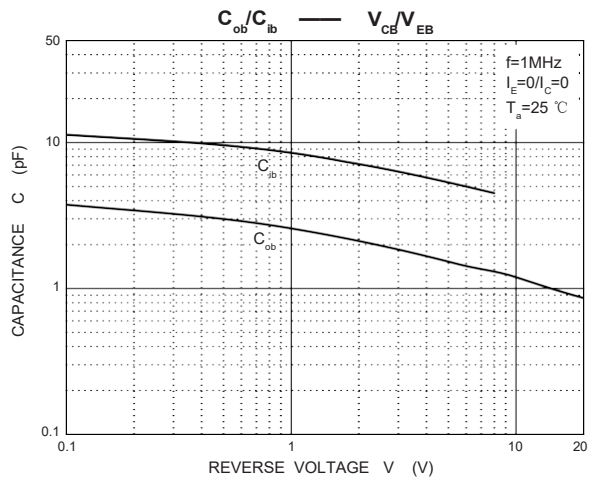

h_FE — I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_CE= 6V
DC CURRENT GAIN h_FE
COLLECTOR CURRENT I_C (mA)

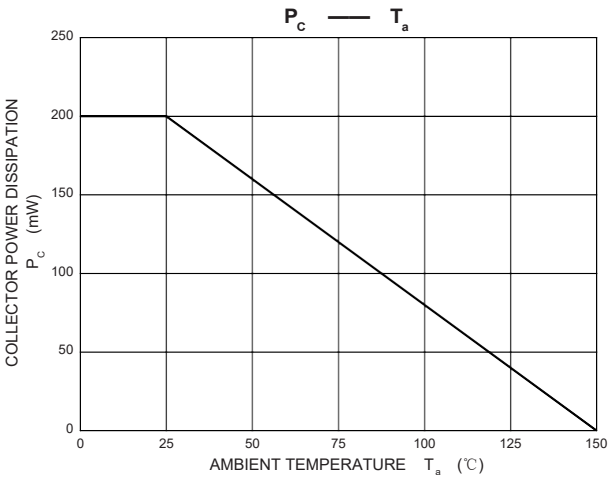

V_BEsat — I_C
T_a=25℃
T_a=100 ℃
β=10
BASE-EMITTER SATURATION VOLTAGE V_BEsat (mV)
COLLECTOR CURREMT I_C (mA)


V_CEsat — I_C
T_a=100 ℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_CEsat (mV)
COLLECTOR CURREMT I_C (mA)


I_C — V_BE
T_a=100℃
T_a=25℃
COMMON EMITTER
V_CE=6V
COLLECTOR CURRENT I_C (mA)
BASE-EMMITER VOLTAGE V_BE (V)


f_T — I_C
COMMON EMITTER
V_CE=6V
T_a=25℃
TRANSITION FREQUENCY f_T (MHz)
COLLECTOR CURRENT I_C (mA)


C_ob/C_ib — V_CB/V_EB
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_ib
C_ob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


P_C — T_a
COLLECTOR POWER DISSIPATION P_C (mW)
AMBIENT TEMPERATURE T_a (℃)