2SC2120 TRANSISTOR (NPN)

1.EMITTER
2.COLLECTOR
3.BASE

TO-92

FEATURES

- High DC Current Gain
- Complementary to 2SA950

ORDERING INFORMATION

Part Number	Package	Packing Method	Pack Quantity
2SC2120	TO-92	Bulk	1000pcs/Bag
2SC2120-TA	TO-92	Tape	2000pcs/Box

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

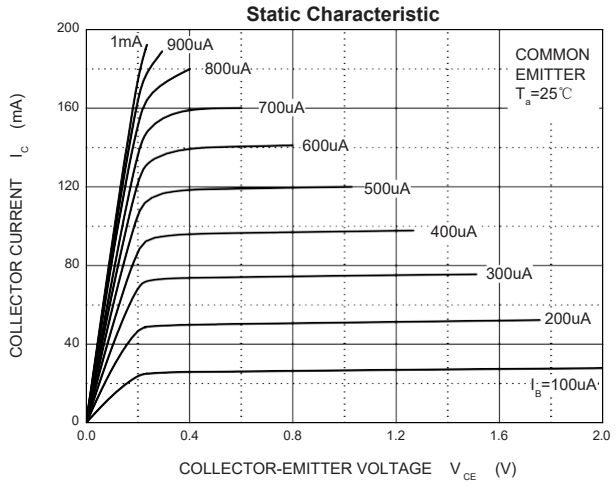
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	35	V
V_{CEO}	Collector-Emitter Voltage	30	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	0.8	A
P_C	Collector Power Dissipation	600	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	208	℃ /W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

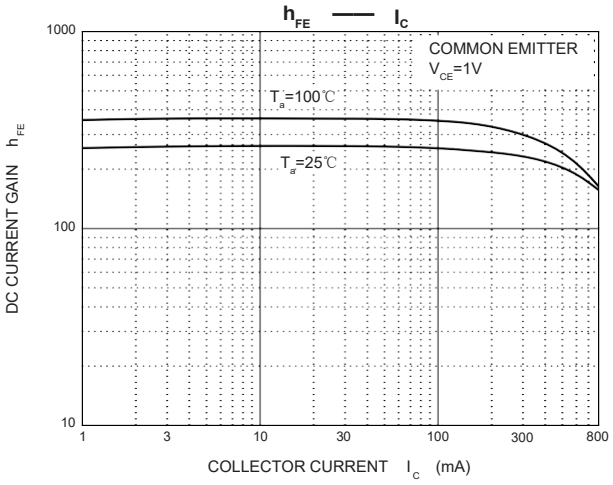
T_a=25℃ unless otherwise specified

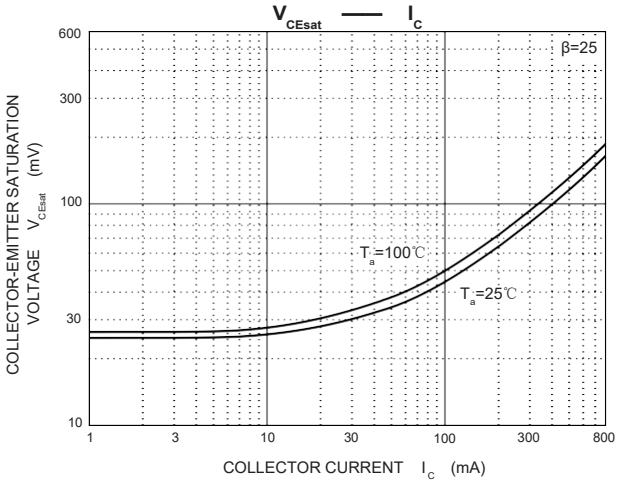
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= 0.1mA,I_E=0	35			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA,I_B=0	30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=35V,I_E=0			0.1	μA
Collector cut-off current	I_{CEO}	V_{CE}=25V,I_B=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}=1V, I_C=100mA	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA,I_B=20mA			0.5	V
Base-emitter voltage	V_{BE}	V_{CE}=1V, I_C=10mA			0.8	V
Collector output capacitance	C_{ob}	V_{CB}=10V,I_E=0, f=1MHz			13	pF
Transition frequency	f_T	V_{CE}=5V,I_C=10mA	100			MHz

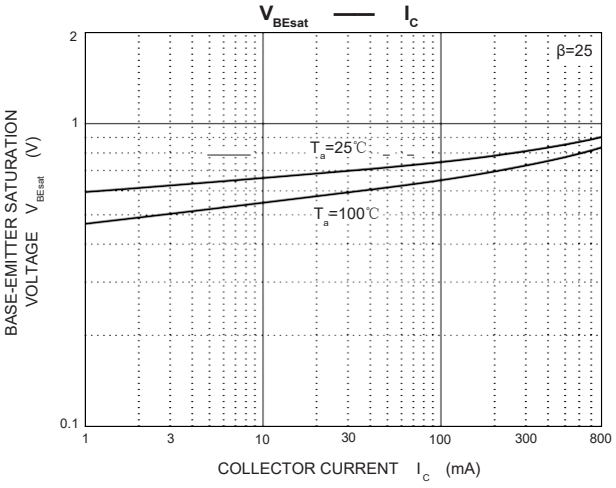
CLASSIFICATION OF h_{FE}

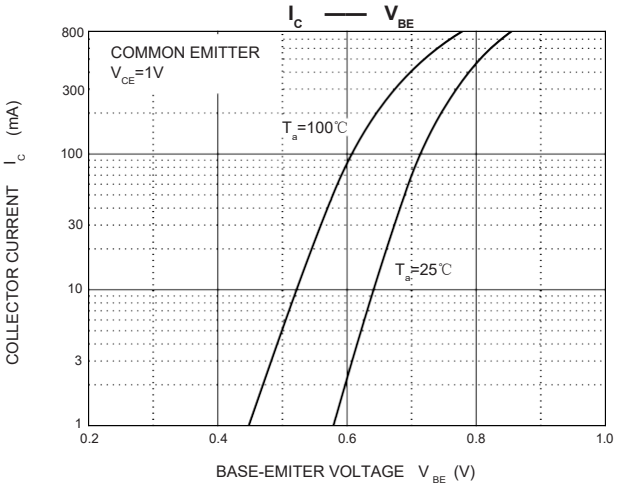
RANK	O	Y
RANGE	100-200	160-320

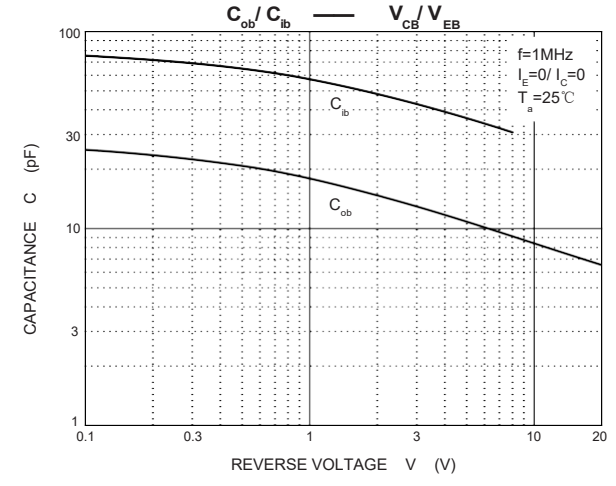

Static Characteristic
COMMON EMITTER
Ta=25℃
1mA
900uA
800uA
700uA
600uA
500uA
400uA
300uA
200uA
IB=100uA
COLLECTOR CURRENT IC (mA)
COLLECTOR-EMITTER VOLTAGE VCE (V)

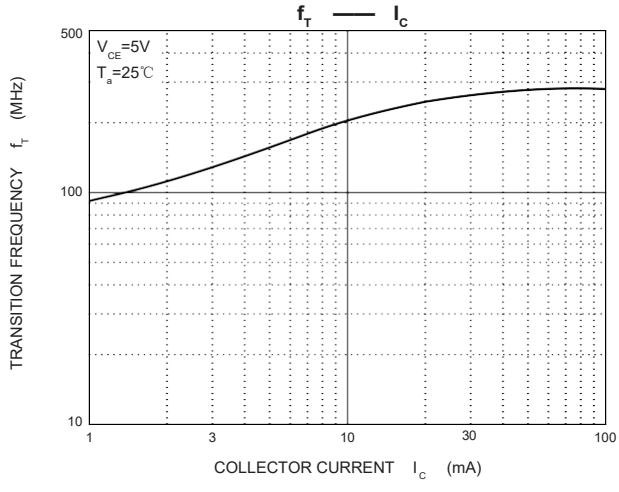

hFE — IC
COMMON EMITTER
VCE=1V
Ta=100℃
Ta=25℃
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)

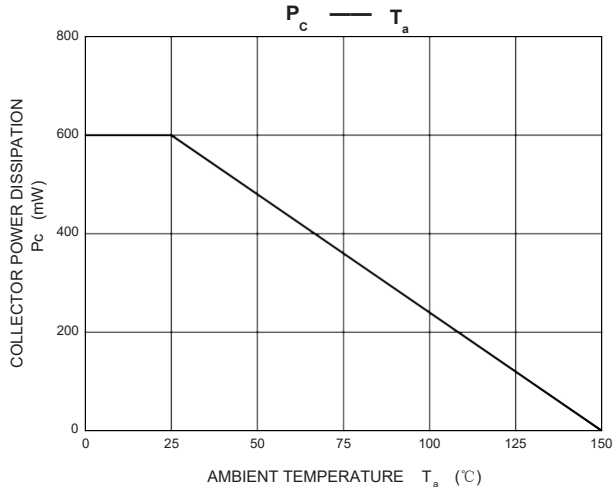

VCEsat — IC
β=25
Ta=100℃
Ta=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
COLLECTOR CURRENT IC (mA)


VBEsat — IC
β=25
Ta=25℃
Ta=100℃
BASE-EMITTER SATURATION VOLTAGE VBEsat (V)
COLLECTOR CURRENT IC (mA)


IC — VBE
COMMON EMITTER
VCE=1V
Ta=100℃
Ta=25℃
COLLECTOR CURRENT IC (mA)
BASE-EMITER VOLTAGE VBE (V)


Cob/ Cib — VCB/ VEB
f=1MHz
IE=0/ IC=0
Ta=25℃
Cib
Cob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


fT — IC
VCE=5V
Ta=25℃
TRANSITION FREQUENCY fT (MHz)
COLLECTOR CURRENT IC (mA)


PC — Ta
COLLECTOR POWER DISSIPATION PC (mW)
AMBIENT TEMPERATURE Ta (℃)