2SA1203 TRANSISTOR (PNP)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- Complementary to 2SC2883
- Small Flat Package
- Audio Frequency Amplifier Application

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

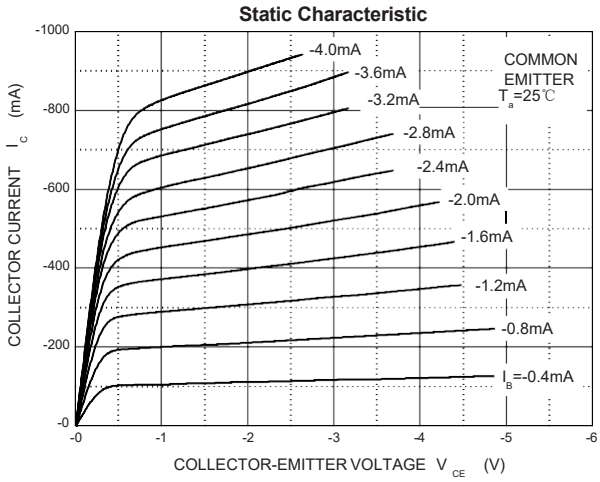
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	-30	V
V_{CEO}	Collector-Emitter Voltage	-30	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-1.5	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

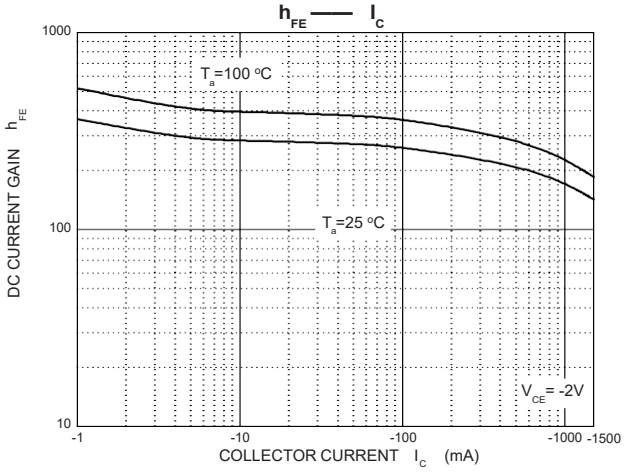
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

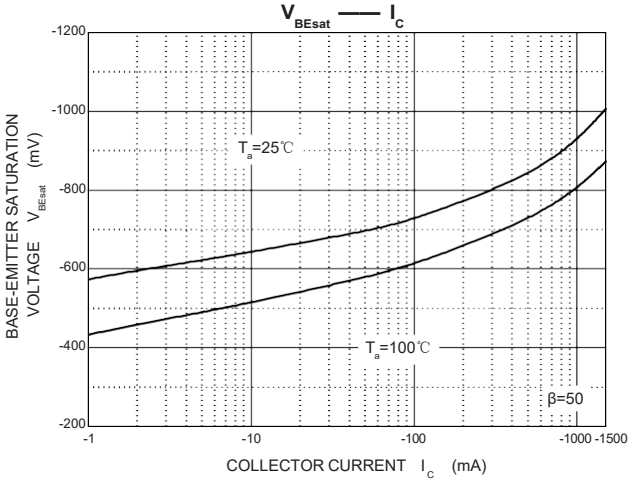
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C= -1mA,I_E=0	-30			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=-10mA,I_B=0	-30			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=-1mA,I_C=0	-5			V
Collector cut-off current	I_{CBO}	V_{CB}=-30V,I_E=0			-100	nA
Emitter cut-off current	I_{EBO}	V_{EB}=-5V,I_C=0			-100	nA
DC current gain	h_{FE}	V_{CE}=-2V, I_C=-500mA	100		320	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=-1.5A,I_B=-30mA			-2	V
Base-emitter voltage	V_{BE}	V_{CE}=-2V, I_C=-500mA			-1	V
Collector output capacitance	C_{ob}	V_{CB}=-10V,I_E=0, f=1MHz			50	pF
Transition frequency	f_T	V_{CE}=-2V,I_C= -500mA		120		MHz

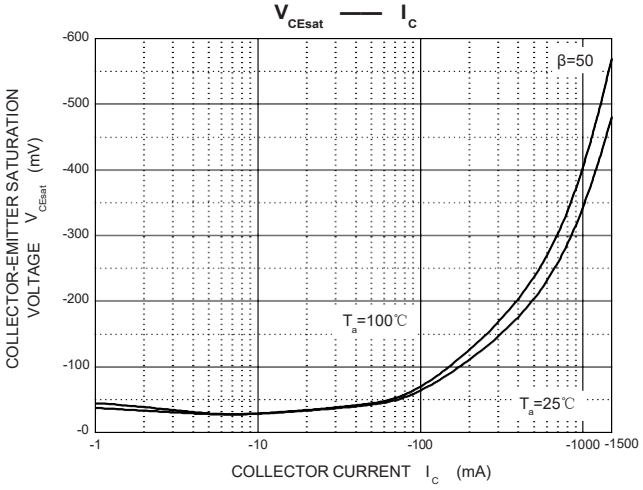
CLASSIFICATION OF h_{FE}

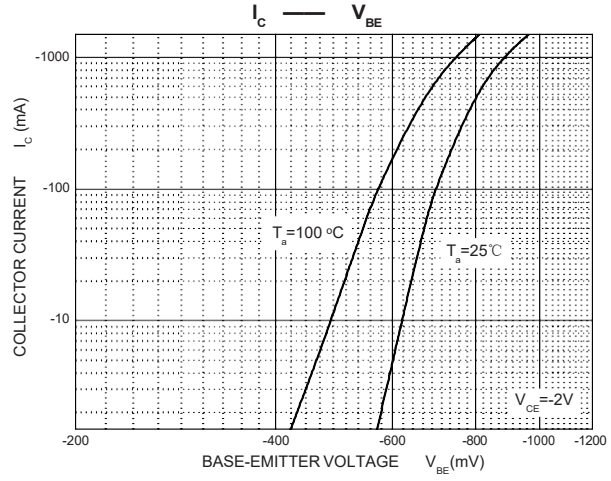
RANK	O	Y
RANGE	100 – 200	160 – 320
MARKING	HO1	HY1

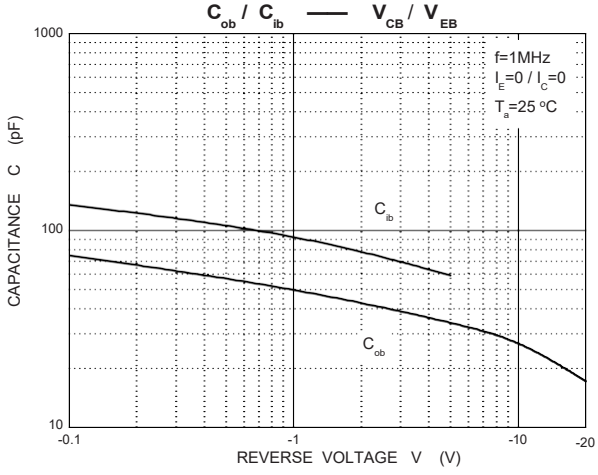

Static Characteristic
COMMON EMITTER
Ta=25℃
-4.0mA
-3.6mA
-3.2mA
-2.8mA
-2.4mA
-2.0mA
-1.6mA
-1.2mA
-0.8mA
IB=-0.4mA
COLLECTOR CURRENT IC (mA)
COLLECTOR-EMITTER VOLTAGE VCE (V)

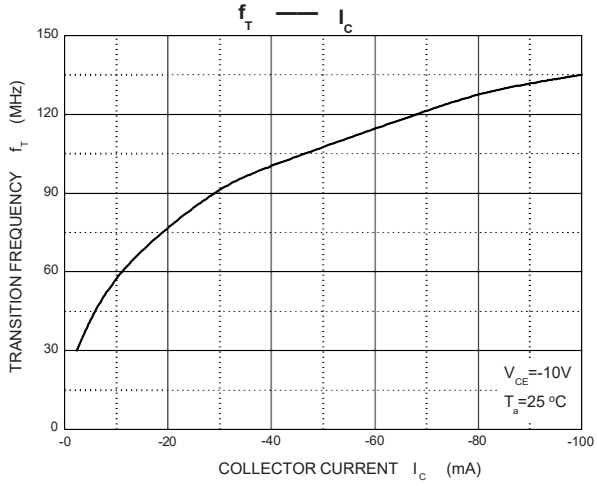

hFE — IC
Ta=100 ºC
Ta=25 ºC
VCE= -2V
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)

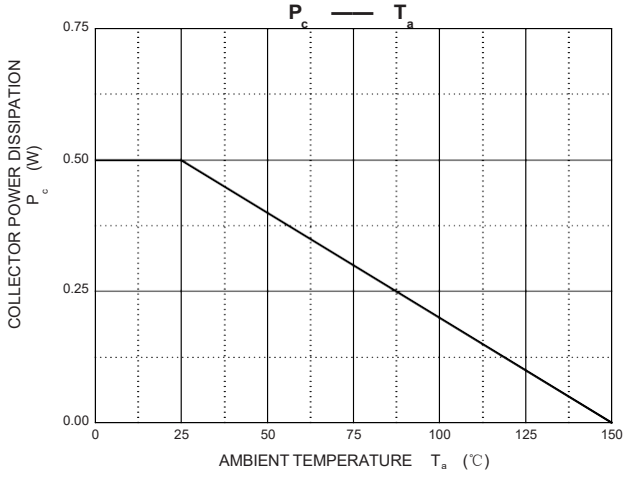

VBEsat — IC
Ta=25℃
Ta=100℃
β=50
BASE-EMITTER SATURATION VOLTAGE VBEsat (mV)
COLLECTOR CURRENT IC (mA)


VCEsat — IC
β=50
Ta=100℃
Ta=25℃
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
COLLECTOR CURRENT IC (mA)


IC — VBE
Ta=100 ºC
Ta=25℃
VCE=-2V
COLLECTOR CURRENT IC (mA)
BASE-EMITTER VOLTAGE VBE(mV)


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


fT — IC
VCE=-10V
Ta=25 ºC
TRANSITION FREQUENCY fT (MHz)
COLLECTOR CURRENT IC (mA)


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