2SC2881 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

- Small Flat Package
- High Transition Frequency
- High Voltage
- Complementary to 2SA1201

APPLICATIONS

- Power Amplifier and Voltage Amplifier

MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

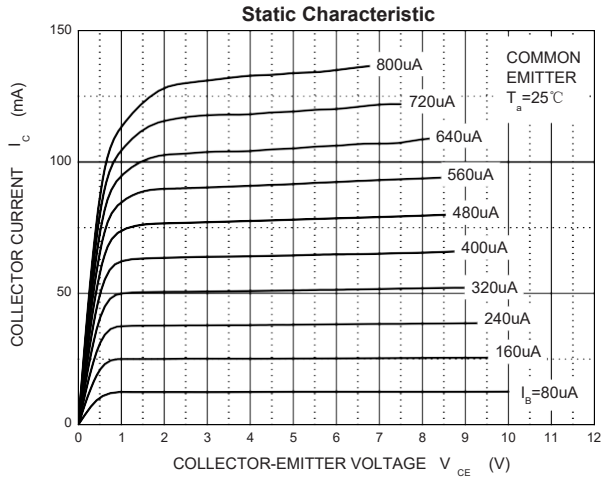
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	120	V
V_{CEO}	Collector-Emitter Voltage	120	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	800	mA
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55~+150	℃

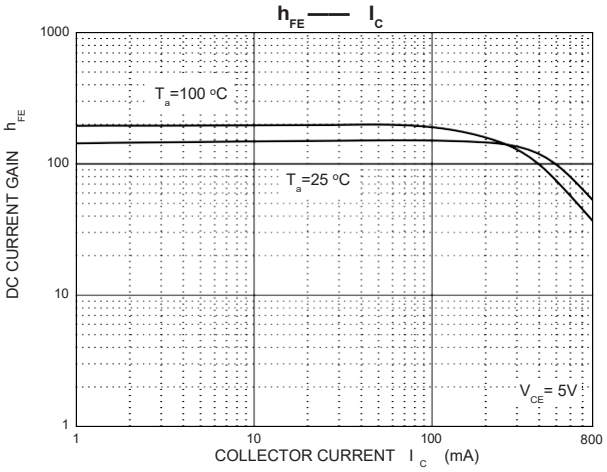
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

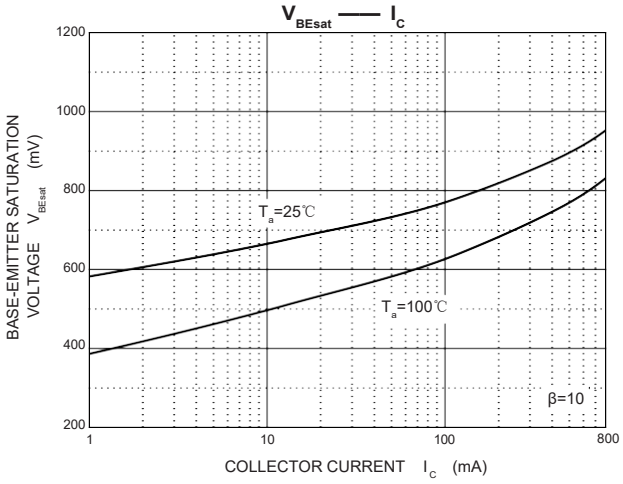
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=1mA,I_E=0	120			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=10mA,I_B=0	120			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=1mA,I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=120V,I_E=0			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}=5V, I_C=100mA	80		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA,I_B=50mA			1	V
Base-emitter voltage	V_{BE}	V_{CE}=5V, I_C=0.5A			1	V
Transition frequency	f_T	V_{CE}=5V,I_C=100mA		120		MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz			30	pF

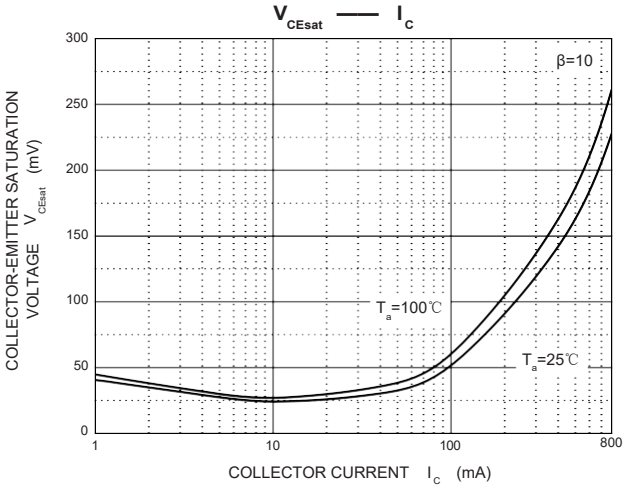
CLASSIFICATION OF h_{FE}

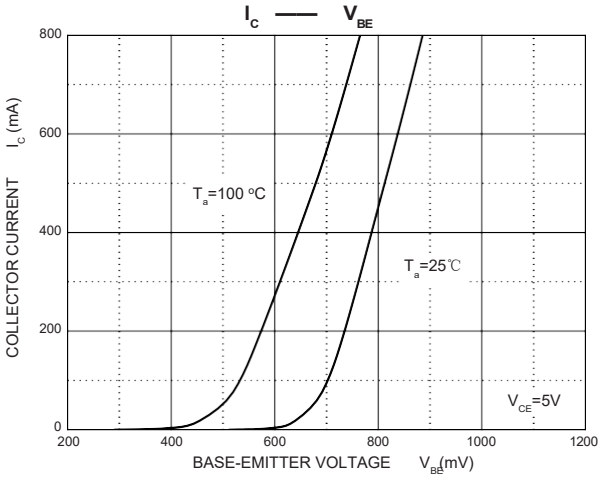
RANK	O	Y
RANGE	80－160	120－240
MARKING	CO1	CY1

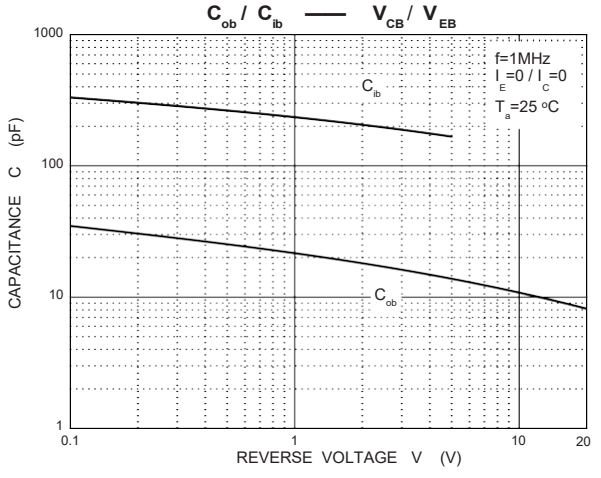

Static Characteristic
COMMON EMITTER
T a =25℃
800uA
720uA
640uA
560uA
480uA
400uA
320uA
240uA
160uA
I B =80uA
COLLECTOR CURRENT I C (mA)
COLLECTOR-EMITTER VOLTAGE V CE (V)

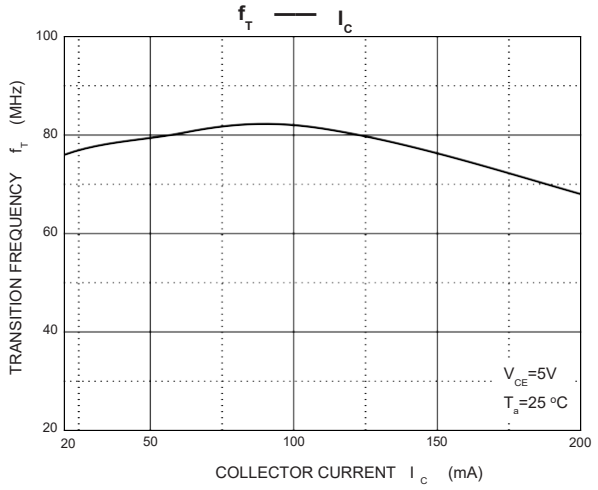

h FE — I C
T a =100 °C
T a =25 °C
V CE = 5V
DC CURRENT GAIN h FE
COLLECTOR CURRENT I C (mA)

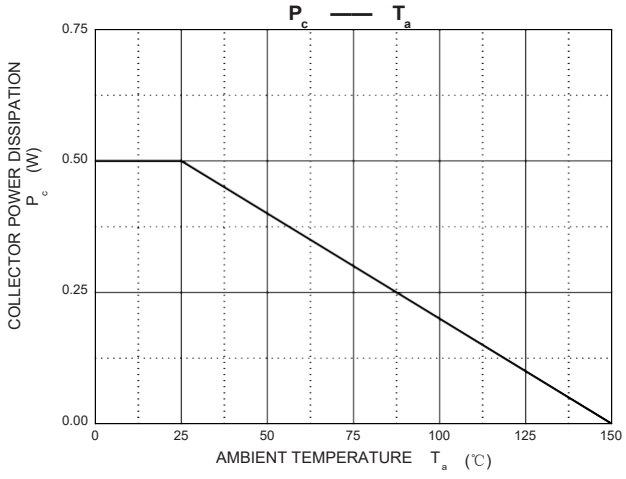

V BEsat — I C
T a =25℃
T a =100℃
β=10
BASE-EMITTER SATURATION VOLTAGE V BEsat (mV)
COLLECTOR CURRENT I C (mA)


V CEsat — I C
β=10
T a =100℃
T a =25℃
COLLECTOR-EMITTER SATURATION VOLTAGE V CEsat (mV)
COLLECTOR CURRENT I C (mA)


I C — V BE
T a =100 °C
T a =25℃
V CE =5V
COLLECTOR CURRENT I C (mA)
BASE-EMITTER VOLTAGE V BE (mV)


C ob / C ib — V CB / V EB
f=1MHz
I E =0 / I C =0
T a =25 °C
C ib
C ob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


f T — I C
V CE =5V
T a =25 °C
TRANSITION FREQUENCY f T (MHz)
COLLECTOR CURRENT I C (mA)


P c — T a
COLLECTOR POWER DISSIPATION P c (W)
AMBIENT TEMPERATURE T a (℃)