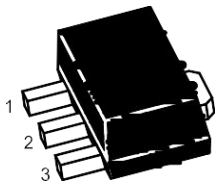
TRANSISTOR(NPN)	SOT-89Plastic-Encapsulate Transistors

SOT-89



1.Base 2.Collector 3.Emitter
SOT-89 Plastic Package

Features

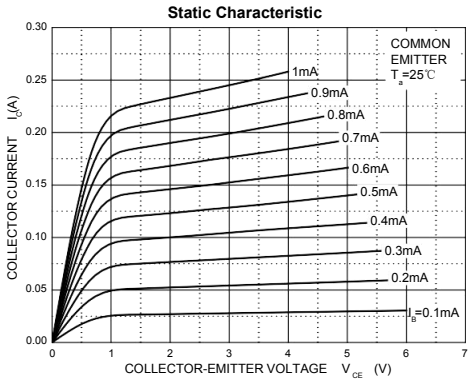
- Compliment to SS8550

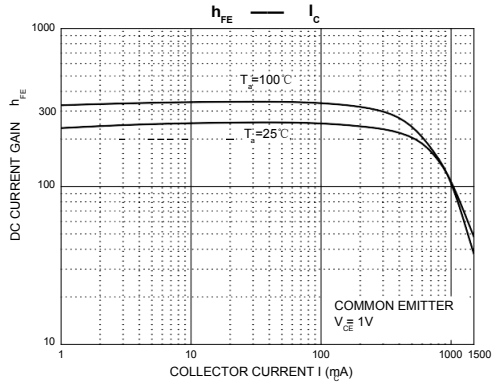
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

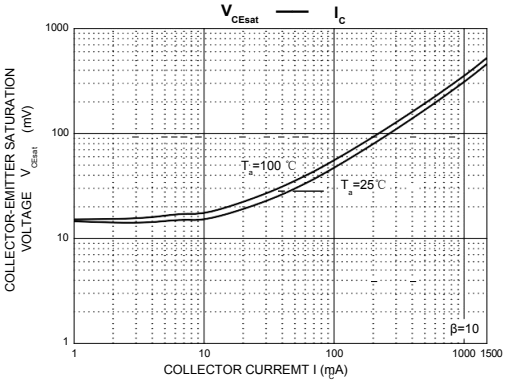
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current -Continuous	1.5	A
P_C	Collector Power dissipation	0.5	W
$R_{\Theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_J	Storage Temperature	150	℃
T_{stg}	Storage Temperature	-55~150	℃

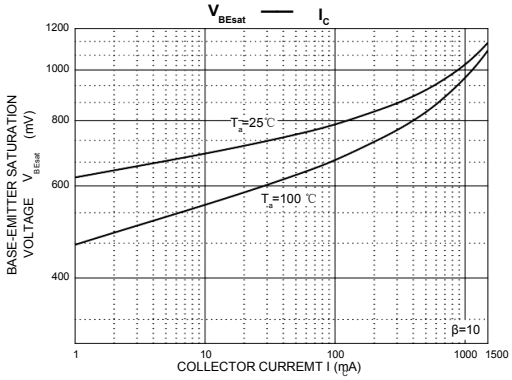
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

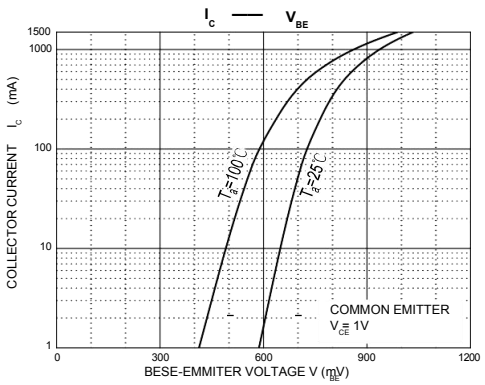
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=100uA, I_E=0	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=0.1mA, I_B=0	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=100μA, I_C=0	5			V
Collector cut-off current	I_{CBO}	V_{CB}=40V, I_E=0			0.1	μA
Emitter cut-off current	I_{CEO}	V_{CE}=20V, I_E=0			0.1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=5V, I_C=0			0.1	μA
DC current gain	$h_{FE(1)}$	V_{CE}=1V, I_C=100mA	120		400	
	$h_{FE(2)}$	V_{CE}=1V, I_C=800mA	40			
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=800mA, I_B=80mA			0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	I_C=800mA, I_B=80mA			1.2	V
Base-emitter voltage	V_{BE}	V_{CE}=1V, I_C=10mA			1	V
Base-emitter positive favor voltage	V_{BEF}	I_B=1A			1.55	V
Transition frequency	f_T	V_{CE}=10V,I_C=50mA,f=30MHz	100			MHz
output capacitance	C_{ob}	V_{CB}=10V,I_E=0,f=1MHz			15	pF

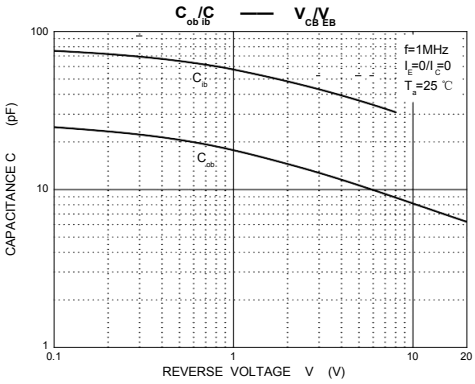

Static Characteristic
COMMON EMITTER
T_a=25℃
1mA
0.9mA
0.8mA
0.7mA
0.6mA
0.5mA
0.4mA
0.3mA
0.2mA
I_B=0.1mA
COLLECTOR CURRENT I_C (A)
COLLECTOR-EMITTER VOLTAGE V_CE (V)

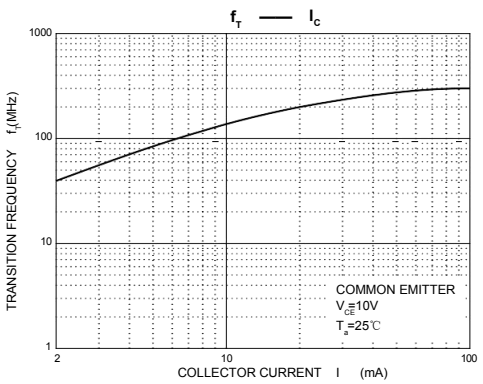

h_FE — I_C
T_a=100℃
T_a=25℃
COMMON EMITTER
V_CE= 1V
DC CURRENT GAIN h_FE
COLLECTOR CURRENT I (mA)

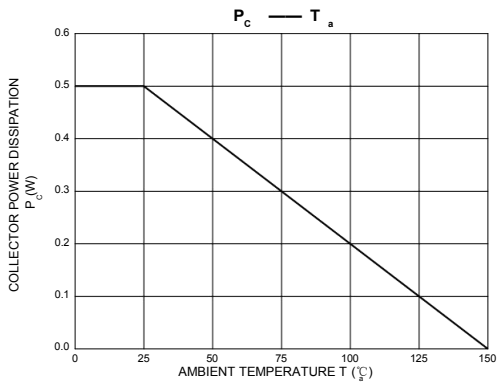

V_CEsat — I_C
T_a=100 ℃
T_a=25℃
β=10
COLLECTOR-EMITTER SATURATION VOLTAGE V_CEsat (mV)
COLLECTOR CURREMT I (mA)


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


I_C — V_BE
T_a=100℃
T_a=25℃
COMMON EMITTER
V_CE= 1V
COLLECTOR CURRENT I_C (mA)
BESE-EMMITER VOLTAGE V (mV)

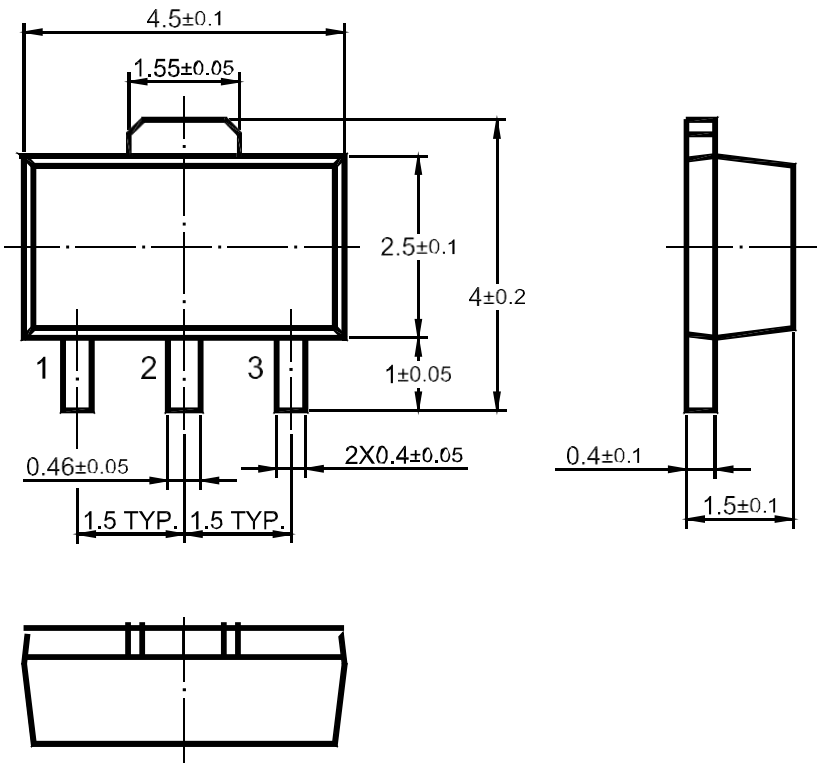

C_ob /C_ib — V_CB /V_EB
f=1MHz
I_E=0/I_C=0
T_a=25 ℃
C_ib
C_ob
CAPACITANCE C (pF)
REVERSE VOLTAGE V (V)


f_T — I_C
COMMON EMITTER
V_CE=10V
T_a=25℃
TRANSITION FREQUENCY f_t (MHz)
COLLECTOR CURRENT I (mA)


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

SS8050

SOT-89 PACKAGE OUTLINE



Dimensions in mm