2SC554 TRANSISTOR (NPN)

1.BASE
2.COLLECTOR
3.EMITTER

SOT-89

FEATURES

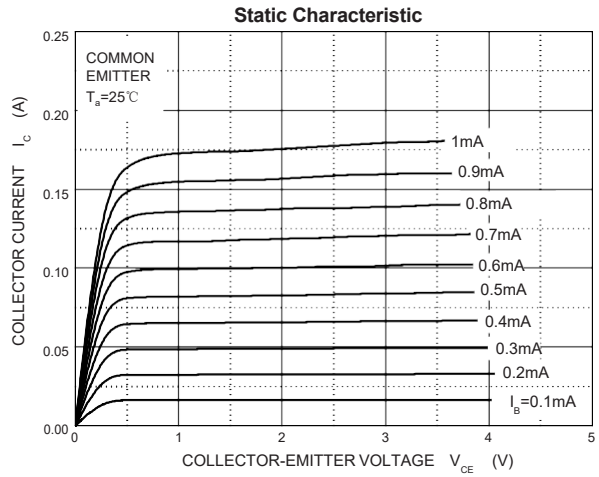
- Low Saturation Voltage
- High Speed Switching

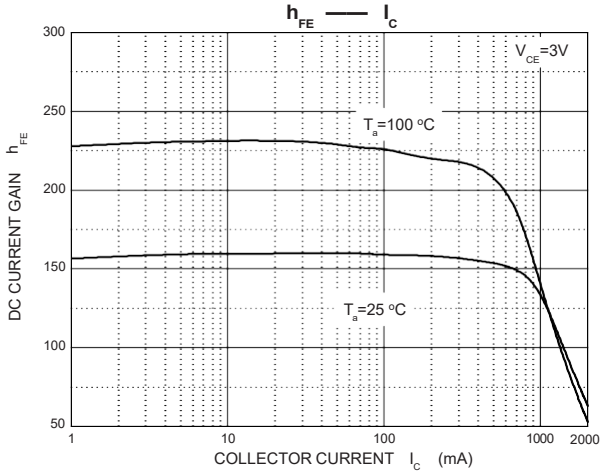
MAXIMUM RATINGS (T_a=25℃ unless otherwise noted)

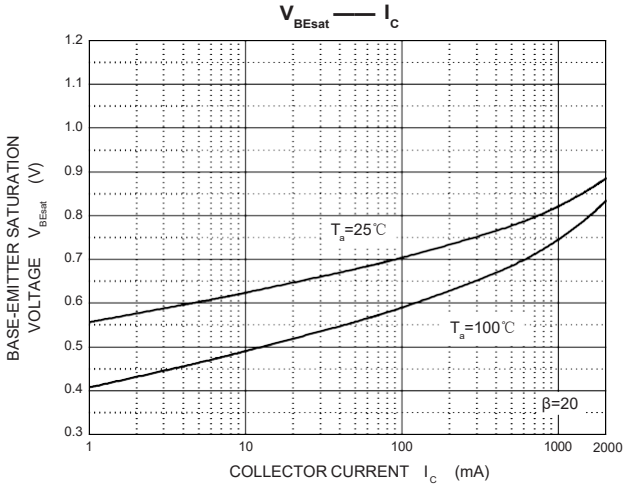
Symbol	Parameter	Value	Unit
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current	2	A
P_C	Collector Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance From Junction To Ambient	250	℃/W
T_J,T_{stg}	Operation Junction and Storage Temperature Range	-55 ~ +150	℃

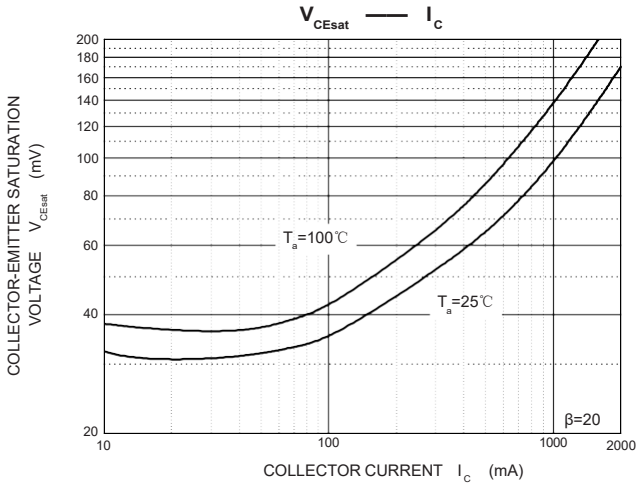
ELECTRICAL CHARACTERISTICS (T_a=25℃ unless otherwise specified)

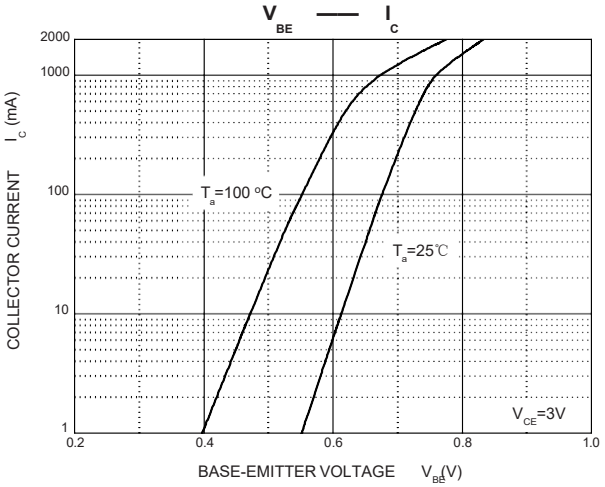
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	I_C=0.1mA,I_E=0	100			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	I_C=1mA,I_B=0	100			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	I_E=0.1mA,I_C=0	6			V
Collector cut-off current	I_{CBO}	V_{CB}=100V,I_E=0			1	μA
Emitter cut-off current	I_{EBO}	V_{EB}=4V,I_C=0			1	μA
DC current gain	h_{FE}	V_{CE}=3V, I_C=100mA	82		270	
Collector-emitter saturation voltage	$V_{CE(sat)}$	I_C=500mA,I_B=25mA			0.2	V
		I_C=1A,I_B=50mA			0.3	V
Transition frequency	f_T	V_{CE}=5V,I_C=100mA	30			MHz
Collector output capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz		16		pF

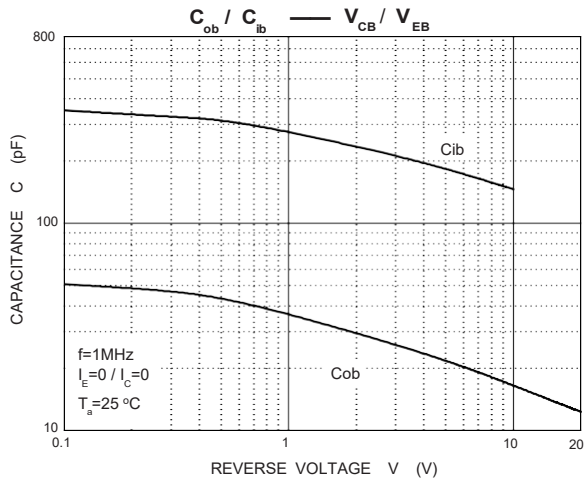

Static Characteristic
COMMON
EMITTER
Ta=25℃
1mA
0.9mA
0.8mA
0.7mA
0.6mA
0.5mA
0.4mA
0.3mA
0.2mA
IB=0.1mA
COLLECTOR CURRENT IC (A)
COLLECTOR-EMITTER VOLTAGE VCE (V)

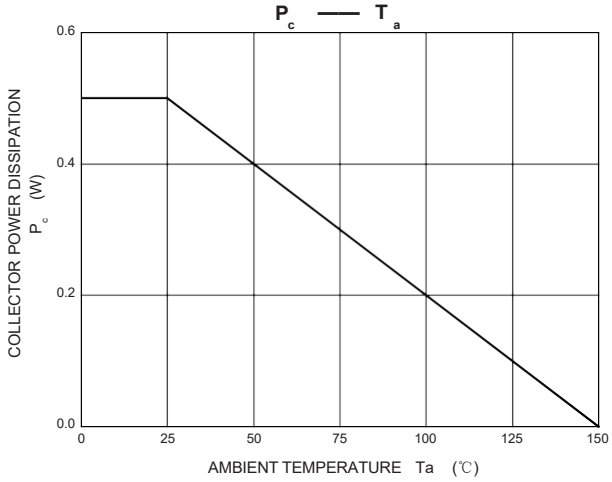

hFE —— IC
VCE=3V
Ta=100 ºC
Ta=25 ºC
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)


VBEsat —— IC
Ta=25℃
Ta=100℃
β=20
BASE-EMITTER SATURATION VOLTAGE VBEsat (V)
COLLECTOR CURRENT IC (mA)


VCEsat —— IC
Ta=100℃
Ta=25℃
β=20
COLLECTOR-EMITTER SATURATION VOLTAGE VCEsat (mV)
COLLECTOR CURRENT IC (mA)


VBE —— IC
Ta=100 ºC
Ta=25℃
VCE=3V
COLLECTOR CURRENT IC (mA)
BASE-EMITTER VOLTAGE VBE(V)


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


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