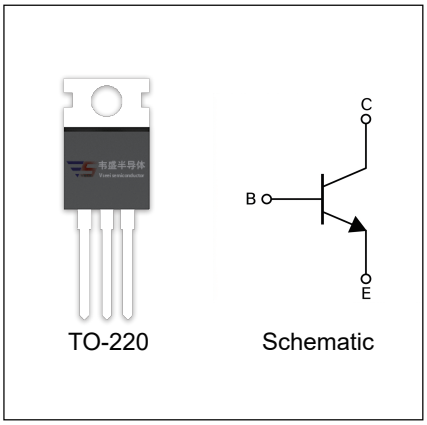
# 2SC4544 TRANSISTOR (NPN)



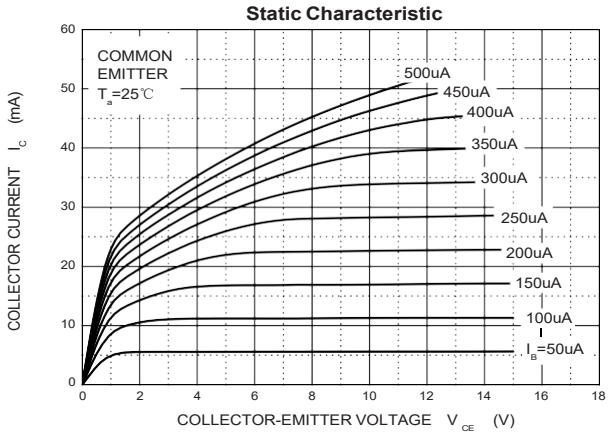

## FEATURES

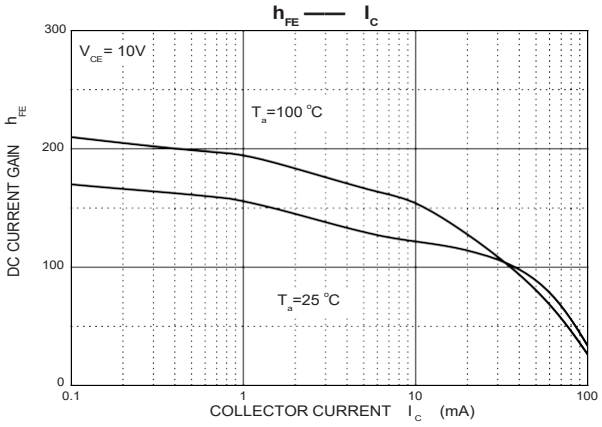
- High voltage: $V_{(BR)\,CEO}$ = 300 V
- Small collector output capacitance: $C_{ob}$ = 3.0 pF (typ.)
- Collector metal (fin) is fully covered with mold resin.

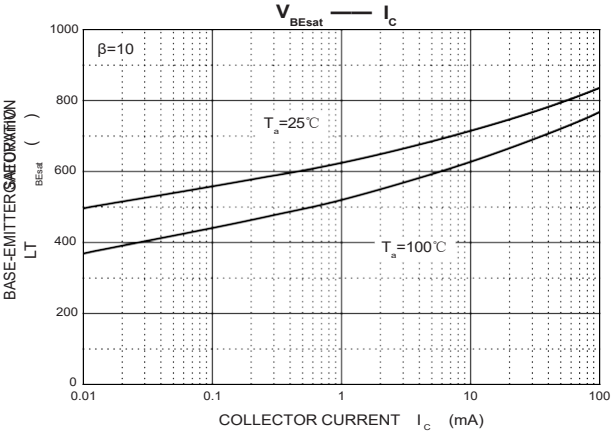
## MAXIMUM RATINGS ($T_a$=25℃ unless otherwise noted)

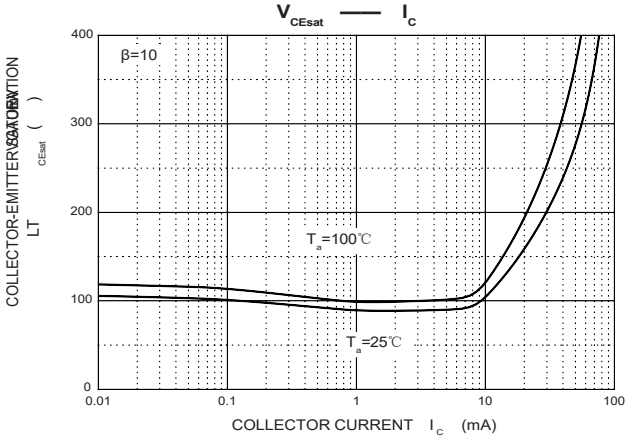
| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 300 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 300 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 7 | V |
| $I_C$ | Collector Current -Continuous | 0.1 | A |
| $P_C$ | Collector Power Dissipation | 2 | W |
| $T_J$,$T_{stg}$ | Operation Junction and Storage Temperature Range | -55-150 | ℃ |

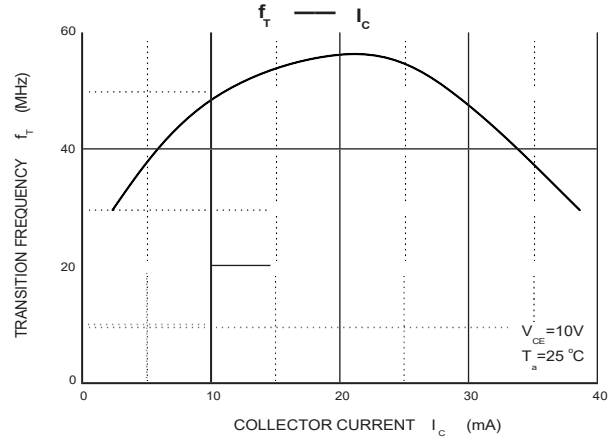
| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| **Collector-base breakdown voltage** | $V_{(BR)CBO}$ | $I_C$=100μA,$I_E$=0 | 300 | | | V |
| **Collector-emitter breakdown voltage** | $V_{(BR)CEO}$ | $I_C$=10mA,$I_B$=0 | 300 | | | V |
| **Emitter-base breakdown voltage** | $V_{(BR)EBO}$ | $I_E$=100μA,$I_C$=0 | 7 | | | V |
| **Collector cut-off current** | $I_{CBO}$ | $V_{CB}$=240V,$I_E$=0 | | | 1.0 | μA |
| **Emitter cut-off current** | $I_{EBO}$ | $V_{EB}$=7V,$I_C$=0 | | | 1.0 | μA |
| **DC current gain** | $h_{FE(1)}$ | $V_{CE}$=10V,$I_C$=4mA | 20 | | | |
| | $h_{FE(2)}$ | $V_{CE}$=10V,$I_C$=20mA | 30 | | 200 | |
| **Collector-emitter saturation voltage** | $V_{CE(sat)}$ | $I_C$=10mA, $I_B$=1mA | | | 1.0 | V |
| **Base-emitter saturation voltage** | $V_{BE(sat)}$ | $I_C$=10mA, $I_B$=1mA | | | 1.0 | V |
| **Transition frequency** | $f_T$ | $V_{CE}$=10V,$I_C$=20mA | 50 | 70 | | MHz |
| **Collector output capacitance** | $C_{ob}$ | $V_{CB}$=20V,$I_E$=0,f=1MHz | | 3.0 | | pF |

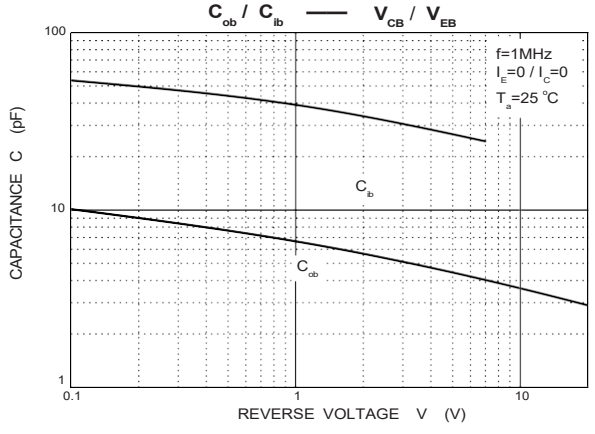

Static Characteristic
COMMON
EMITTER
Ta=25℃
500uA
450uA
400uA
350uA
300uA
250uA
200uA
150uA
100uA
IB=50uA
COLLECTOR CURRENT IC (mA)
COLLECTOR-EMITTER VOLTAGE VCE (V)

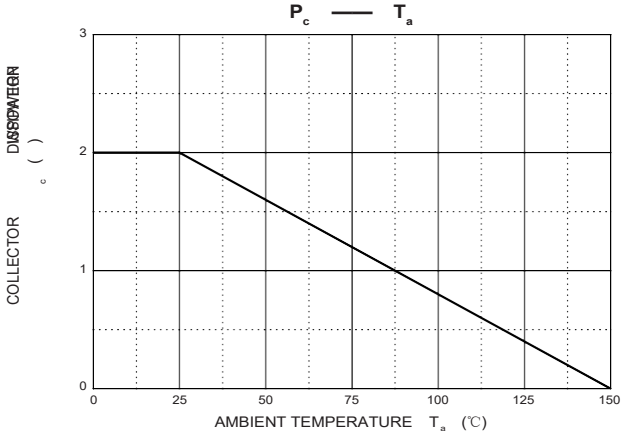

hFE —— IC
VCE= 10V
Ta=100 ℃
Ta=25 ℃
DC CURRENT GAIN hFE
COLLECTOR CURRENT IC (mA)


VBEsat —— IC
β=10
Ta=25℃
Ta=100℃
COLLECTOR CURRENT IC (mA)


VCEsat —— IC
β=10
Ta=100℃
Ta=25℃
COLLECTOR CURRENT IC (mA)


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


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


PC —— Ta
AMBIENT TEMPERATURE Ta (℃)