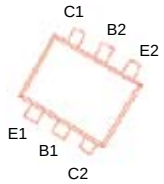
# Multi-chip transistor (NPN)

**SOT-363**




## APPLICATION

This device is designed for general purpose amplifier applications

**Marking :1C**

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

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 50 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 45 | |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | |
| $I_C$ | Collector Current-Continuous | 200 | mA |
| $P_D$ | Power Dissipation | 200 | mW |
| $R_{\theta JA}$ | Thermal Resistance. Junction to Ambient | 625 | ℃/W |
| $T_j$ | Junction Temperature | 150 | ℃ |
| $T_{stg}$ | Storage Temperature Range | -55~+150 | |

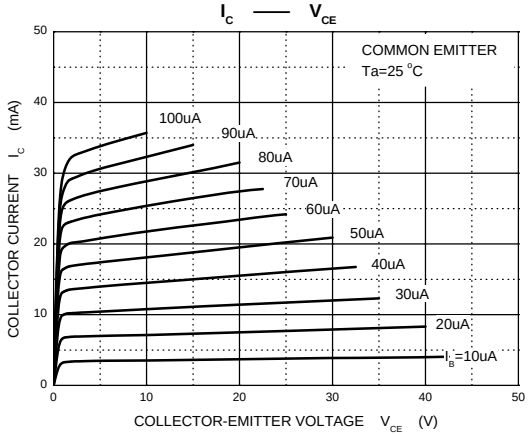
## ELECTRICAL CHARACTERISTICS ($T_a$=25℃ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$=10μA,$I_E$=0 | 50 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C$=1mA,$I_B$=0 | 45 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$=10μA,$I_C$=0 | 6 | | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$=30V,$I_E$=0 | | | 15 | nA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$=4V , $I_C$=0 | | | 15 | |
| DC current gain* | $h_{FE}$ | $V_{CE}$=5V,$I_C$=2mA | 110 | | 630 | |
| Collector-emitter saturation voltage | $V_{CE(sat)(1)}$ | $I_C$=10mA,$I_B$=0.5mA | | | 0.25 | V |
| | $V_{CE(sat)(2)}$ | $I_C$=100mA,$I_B$=5mA | | | 0.65 | V |
| Base-emitter voltage | $V_{BE(1)}$ | $V_{CE}$=5V,$I_C$=2mA | 0.58 | | 0.7 | V |
| | $V_{BE(2)}$ | $V_{CE}$=5V,$I_C$=10mA | | | 0.77 | V |
| Transition frequency | $f_T$ | $V_{CE}$=5V,$I_C$=20mA ,f=100MHz | | 200 | | MHz |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$=10V,$I_E$=0,f=1MHz | | 2 | | pF |

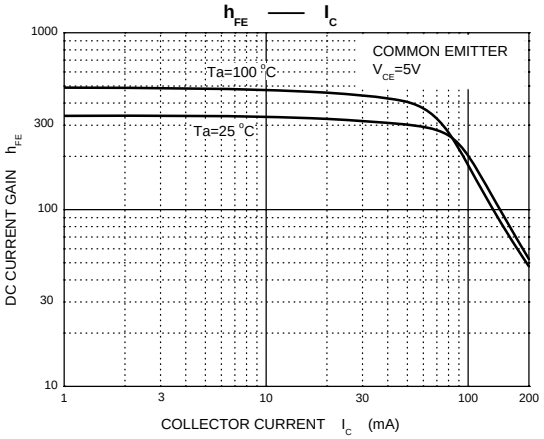
*pulse test: Pulse Width ≤300μs, Duty Cycle≤ 2.0%.

## Typical Characteristics

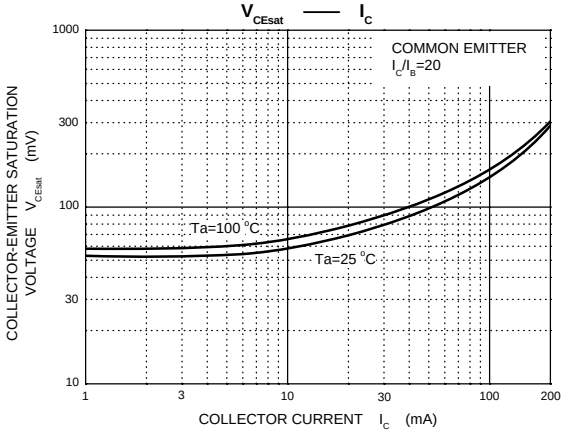
$I_C$ — $V_{CE}$



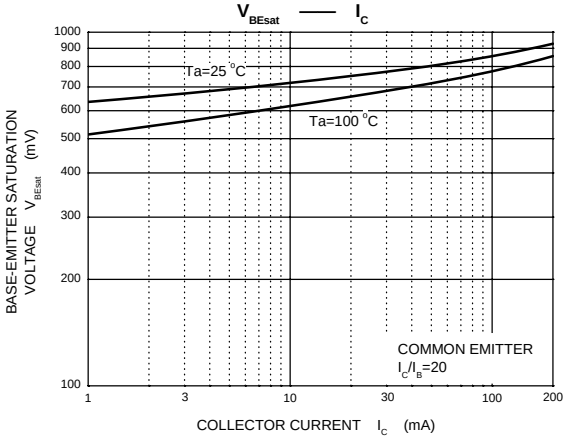

$h_{FE}$ — $I_C$



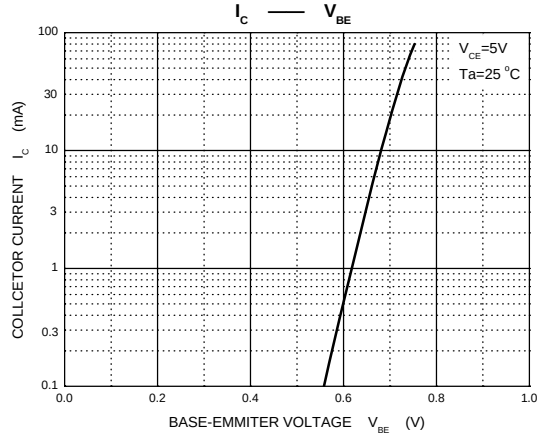

$V_{CEsat}$ — $I_C$



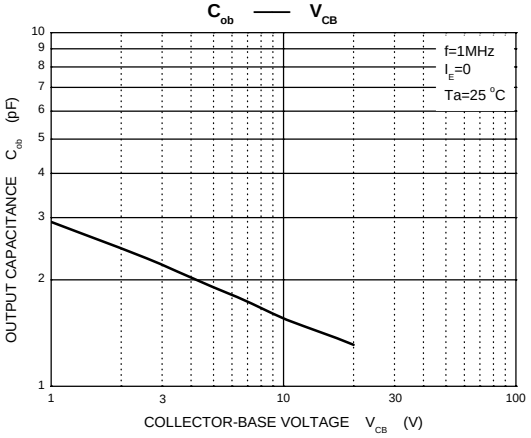

$V_{BEsat}$ — $I_C$



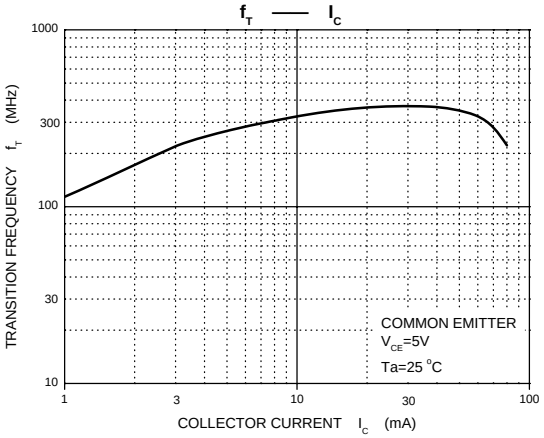

$I_C$ — $V_{BE}$




$C_{ob}$ — $V_{CB}$




$f_T$ — $I_C$




$P_C$ — $T_a$