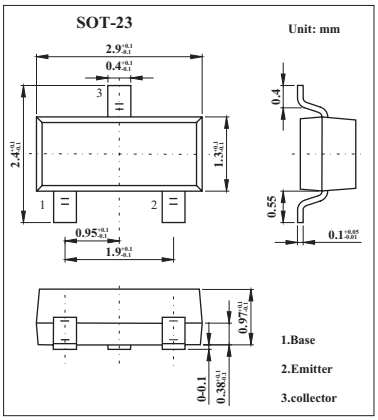
TY Semicondutor®

**Product specification**

# 2SD1757K

## ■ Features

- Low $V_{CE(sat)}$. (Typ.8mV at $I_C/I_B$ = 10/1mA).
- Optimal for muting.




## ■ Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 30 | V |
| Collector-emitter voltage | $V_{CEO}$ | 15 | V |
| Emitter-base voltage | $V_{EBO}$ | 6.5 | V |
| Collector current * | $I_C$ | 0.5 | A |
| Collector power dissipation | $P_C$ | 0.2 | W |
| Junction temperature | Tj | 150 | ℃ |
| Storage temperature | $T_{stg}$ | -55 to +150 | ℃ |

## ■ Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Testconditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $BV_{CBO}$ | $I_C$=50μA | 30 | | | V |
| Collector-emitter breakdown voltage | $BV_{CEO}$ | $I_C$=1mA | 15 | | | V |
| Emitter-base breakdown voltage | $BV_{EBO}$ | $I_E$=50μA | 6.5 | | | V |
| Collector cutoff current | $I_{CBO}$ | $V_{CB}$=20V | | | 0.5 | μA |
| Emitter cutoff current | $I_{EBO}$ | $V_{EB}$=4V | | | 0.5 | μA |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C/I_B$=500mA/50mA | | 0.1 | 0.4 | V |
| DC current transfer ratio | $h_{FE}$ | $V_{CE}$=3V, $I_C$=100mA | 120 | | 560 | |
| Output capacitance | $f_T$ | $V_{CE}$=5V, $I_E$= -50mA, f=100MHz | | 150 | | MHz |
| Transition frequency | $C_{ob}$ | $V_{CB}$=10V, $I_E$=0A, f=1MHz | | 15 | | pF |

## ■ $h_{FE}$ Classification

| Marking | AA | | |
|---|---|---|---|
| Rank | Q | R | S |
| hFE | 120～270 | 180～390 | 270～560 |