# KTC3876

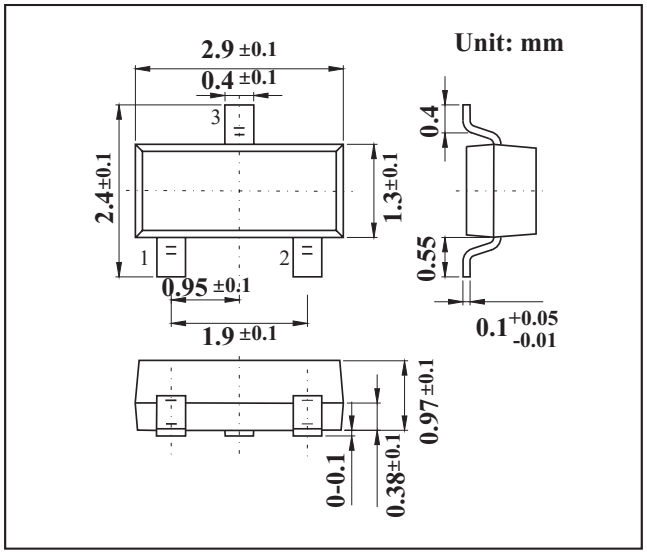
## SOT-23 Plastic-Encapsulate Transistors

### FEATURES

- Complementary To KTA1505.
- Excellent $H_{FE}$ Linearity.
- Low noise.
- NPN Silicon Epitaxial Planar Transistor
- General purpose application, switching application.

### MECHANICAL DATA

- Case style:SOT-23molded plastic
- Mounting position:any




## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 35 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 30 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current -Continuous | 500 | mA |
| $P_C$ | Collector Power Dissipation | 150 | mW |
| $T_j$,$T_{stg}$ | Junction and Storage Temperature | -55 to +150 | ℃ |

**PACKAGE INFORMATION**

| Device | Package | Shipping |
|---|---|---|
| KTC3876 | SOT-23 | 3000/Tape&Reel |

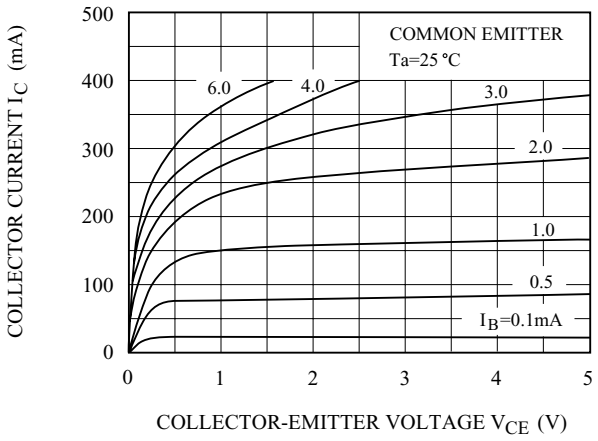
| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$=100μA,$I_E$=0 | 35 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C$=1mA,$I_B$=0 | 30 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$=100μA,$I_C$=0 | 5 | | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$=35V,$I_E$=0 | | | 0.1 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$=5V,$I_C$=0 | | | 0.1 | μA |
| DC current gain | $h_{FE}$ | $V_{CE}$=1V,$I_C$=100mA<br>$V_{CE}$=6V,$I_C$=400mA | 70<br>25 | | 400 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C$=100mA, $I_B$=10mA | | 0.1 | 0.25 | V |
| Base-emitter voltage | $V_{BE}$ | $V_{CE}$=1V,$I_C$=100mA | | 0.8 | 1.0 | V |
| Transition frequency | $f_T$ | $V_{CE}$=6V, $I_C$= 20mA | | 300 | | MHz |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$=6V,$I_E$=0,f=1MHz | | 7 | | pF |

CLASSIFICATION OF $h_{FE}$

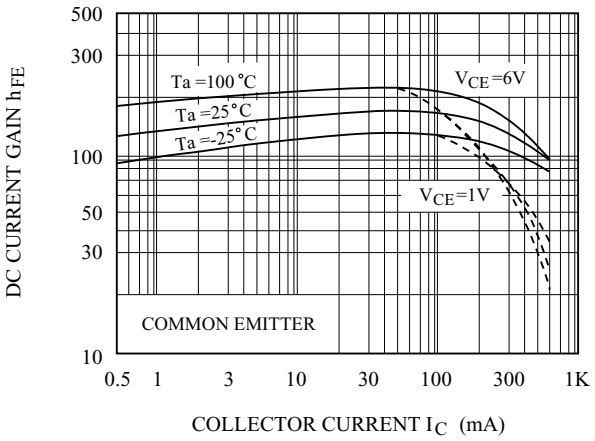
| Rank | O | Y | G |
|---|---|---|---|
| Range | 70-140 | 120-240 | 200-400 |
| Marking | WO | WY | WG |

# RATINGS AND CHARACTERISTIC CURVES

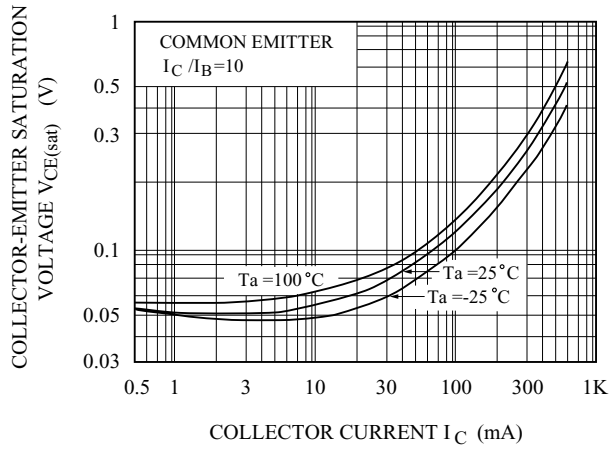
$I_C$ - $V_{CE}$
(LOW VOLTAGE REGION)



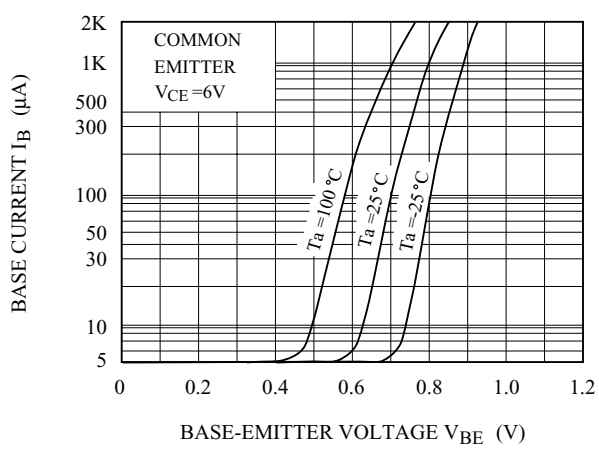

$h_{FE}$ - $I_C$




$V_{CE(sat)}$ - $I_C$




$I_B$ - $V_{BE}$




Pc - Ta