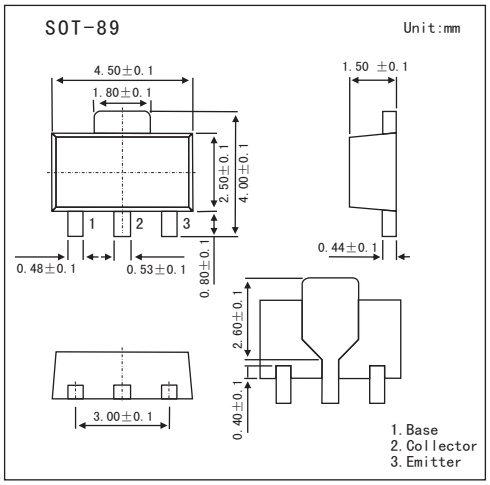
# Epitaxial Planar NPN Transistor
# KTC4378




## Features

Collector Power Dissipation: $P_C$=500mW

Collector Current: $I_C$=1A

## Absolute Maximum Ratings Ta = 25℃

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| Collector-base voltage | $V_{CBO}$ | 80 | V |
| Collector-Emitter voltage | $V_{CEO}$ | 60 | V |
| Emitter-base voltage | $V_{EBO}$ | 5 | V |
| Collector Current | $I_C$ | 1 | A |
| Collector Power Dissipation | $P_C$ | 500 | mW |
| Junction Temperature | $T_j$ | 150 | ℃ |
| Storage Temperature Range | $T_{stg}$ | -55 to 150 | ℃ |

## Electrical Characteristics Ta = 25℃

| Parameter | Symbol | Test conditons | Min | Typ | Max | Unit |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$= 1mA, $I_E$=0 | 80 | | | V |
| Collector-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=10mA, $I_B$=0 | 60 | | | V |
| Emitter-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=1mA, $I_C$=0 | 5 | | | V |
| Collector Cut-off Current | $I_{CBO}$ | $V_{CB}$=50V, $I_E$=0 | | | 100 | nA |
| Emitter Cut-off Current | $I_{EBO}$ | $V_{EB}$=4V, $I_C$=0 | | | 100 | nA |
| DC Current Gain | $h_{FE}$ | $V_{CE}$=2V, $I_C$=50mA | 100 | | 320 | |
| | | $V_{CE}$=2V, $I_C$=1A | 30 | | | |
| Collector-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=500mA, $I_B$=50mA | | | 0.5 | V |
| Base-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=500mA, $I_B$=50mA | | | 1.2 | V |
| Transition frequency | $f_T$ | $V_{CE}$=10V, $I_C$=50mA | | 150 | | MHz |
| Collector Output Capacitance | $C_{ob}$ | $V_{CB}$=10V, $I_E$=0, f=1MHz | | 12 | | pF |

## $h_{FE}$ Classification

| Marking | TY | TGR |
|---|---|---|
| Rank | Y | GR |
| Range | 100 200 | 160 320 |