Ordering number:EN4802

NPN Epitaxial Planar Silicon Transistor

# 2SC5155

## Low-Frequency General-Purpose Amplifier, Applications



## Applications

· Various drivers.

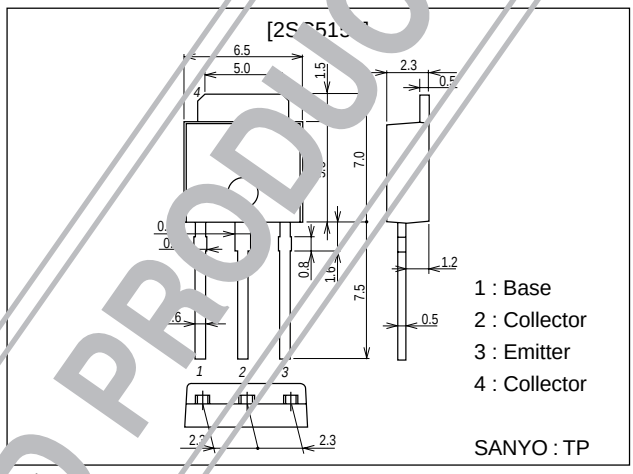
## Features

· High current capacity.
· Adoption of MBIT process.
· High DC current gain.
· Low collector-to-emitter saturation voltage.
· High $V_{EBO}$.

## Package Dimensions

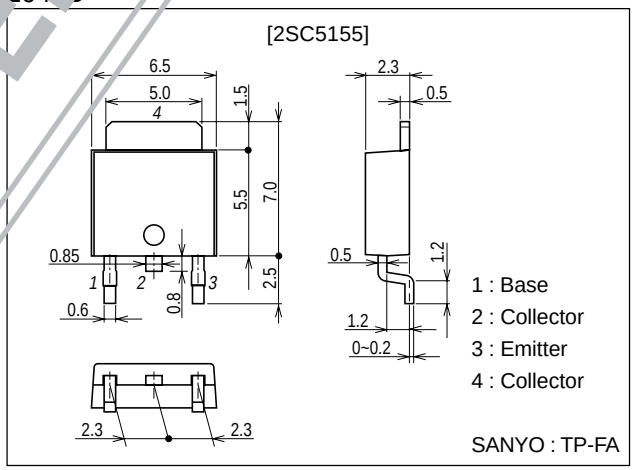
unit:mm

2045B




unit:mm

2045B



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# Specifications

## Absolute Maximum Ratings at Ta = 25˚C

| Parameter | Symbol | Conditions | Ratings | Unit |
|---|---|---|---|---|
| Collector-to-Base Voltage | $V_{CBO}$ | | 50 | V |
| Collector-to-Emitter Voltage | $V_{CEO}$ | | 20 | V |
| Emitter-to-Base Voltage | $V_{EBO}$ | | 15 | V |
| Collector Current | $I_C$ | | 3 | A |
| Collector Current (Pulse) | $I_{CP}$ | | 6 | A |
| Base Current | $I_B$ | | 0.6 | A |
| Collector Dissipation | $P_C$ | | 1 | W |
| | | Tc=25˚C | 20 | W |
| Junction Temperature | Tj | | 150 | ˚C |
| Storage Temperature | Tstg | | –55 to +150 | ˚C |

## Electrical Characteristics at Ta = 25˚C

| Parameter | Symbol | Conditions | Ratings | | | Unit |
|---|---|---|---|---|---|---|
| | | | min | typ | max | |
| Collector Cutoff Current | $I_{CBO}$ | $V_{CB}$=30V, $I_E$=0 | | | 100 | nA |
| Emitter Cutoff Current | $I_{EBO}$ | $V_{EB}$=10V, $I_C$=0 | | | 100 | nA |
| DC Current Gain | $h_{FE}1$ | $V_{CE}$=2V, $I_C$=500mA | 800 | 1500 | 3200 | |
| | $h_{FE}2$ | $V_{CE}$=2V, $I_C$=2A | 500 | | | |
| Gain-Bandwidth Product | $f_T$ | $V_{CE}$=2V, $I_C$=500mA | | 260 | | MHz |
| Output Capacitance | Cob | $V_{CB}$=10V, f=1MHz | | 35 | | pF |
| Collector-to-Emitter Saturation Voltage | $V_{CE(sat)}$ | $I_C$=2A, $I_B$=20mA | | 0.15 | 0.5 | V |
| Base-to-Emitter Saturation Voltage | $V_{BE(sat)}$ | $I_C$=2A, $I_B$=20mA | | 0.85 | 1.2 | V |
| Collector-to-Base Breakdown Voltage | $V_{(BR)CBO}$ | $I_C$=10μA, $I_E$=0 | 50 | | | V |
| Collector-to-Emitter Breakdown Voltage | $V_{(BR)CEO}$ | $I_C$=1mA, $R_{BE}$=∞ | 20 | | | V |
| Emitter-to-Base Breakdown Voltage | $V_{(BR)EBO}$ | $I_E$=10μA, $I_C$=0 | 15 | | | V |
| Turn-ON Time | $t_{on}$ | See specified Test Circuit | | 0.14 | | μs |
| Storage Time | $t_{stg}$ | See specified Test Circuit | | 1.5 | | μs |
| Fall Time | $t_f$ | See specified Test Circuit | | 0.12 | | μs |

## Switching Time Test Circuit