Elektronische Bauelemente

# C1815T

**400 mW, 150 mA, 60 V**

**NPN Plastic Encapsulated Transistor**

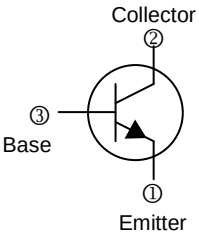
RoHS Compliant Product

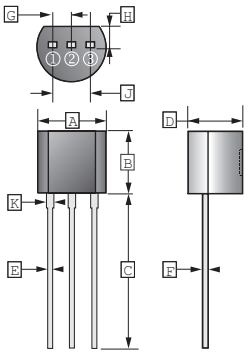
A suffix of "-C" specifies halogen & lead-free

## FEATURE

Power Dissipation

**TO-92**




| REF. | Millimeter | |
|---|---|---|
| | Min. | Max. |
| A | 4.40 | 4.70 |
| B | 4.30 | 4.70 |
| C | 12.70 | - |
| D | 3.30 | 3.81 |
| E | 0.36 | 0.56 |
| F | 0.36 | 0.51 |
| G | 1.27 TYP. | |
| H | 1.10 | - |
| J | 2.42 | 2.66 |
| K | 0.36 | 0.76 |

## ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25℃ unless otherwise specified)

| PARAMETER | SYMBOL | RATING | UNIT |
|---|---|---|---|
| Collector to Base Voltage | $V_{CBO}$ | 60 | V |
| Collector to Emitter Voltage | $V_{CEO}$ | 50 | V |
| Emitter to Base Voltage | $V_{EBO}$ | 5 | V |
| Collector Current - Continuous | $I_C$ | 150 | mA |
| Collector Power Dissipation | $P_C$ | 400 | mW |
| Junction, Storage Temperature | $T_J$, $T_{STG}$ | 125, -55 ~ 125 | ℃ |

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

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITION |
|---|---|---|---|---|---|---|
| Collector to Base Breakdown Voltage | $V_{(BR)CBO}$ | 60 | - | - | V | $I_C$=100μA, $I_E$ = 0A |
| Collector to Emitter Breakdown Voltage | $V_{(BR)CEO}$ | 50 | - | - | V | $I_C$=0.1mA, $I_B$ = 0A |
| Emitter to Base Breakdown Voltage | $V_{(BR)EBO}$ | 5 | - | - | V | $I_E$=100μA, $I_C$ = 0A |
| Collector Cut-Off Current | $I_{CBO}$ | - | - | 0.1 | μA | $V_{CB}$=60 V, $I_E$ = 0 A |
| Collector Cut-Off Current | $I_{CEO}$ | - | | 0.1 | μA | $V_{CE}$=50 V, $I_B$ = 0 A |
| Emitter Cut-Off Current | $I_{EBO}$ | - | - | 0.1 | μA | $V_{EB}$=5 V, $I_C$ = 0 A |
| DC Current Gain | $h_{FE}$ | 70 | | 700 | | $V_{CE}$=6V, $I_C$=2mA |
| Collector to Emitter Saturation Voltage | $V_{CE(sat)}$ | - | - | 0.25 | V | $I_C$=100mA, $I_B$=10mA |
| Base to Emitter Saturation Voltage | $V_{BE(sat)}$ | - | - | 1 | V | $I_C$=100mA, $I_B$=10mA |
| Transition Frequency | $f_T$ | 80 | - | - | MHz | $V_{CE}$ = 10V, $I_C$ = 1mA, f = 30 MHz |
| Collector Output Capacitance | Cob | - | - | 3.5 | pF | $V_{CB}$ = 10V, $I_E$ = 0 A, f=1MHz |
| Noise Figure | NF | - | - | 10 | dB | $V_{CE}$ = 6V, $I_C$ = 0.1mA, f=1KHz, $R_G$=10KΩ |

## CLASSIFICATION OF $h_{FE}$

| **Rank** | O | Y | GR | BL |
|---|---|---|---|---|
| **Range** | 70-140 | 120-240 | 200-400 | 350-700 |

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## CHARACTERISTIC CURVES