Elektronische Bauelemente

# BC635 / BC637 / BC639

**NPN**

**General Purpose Transistor**

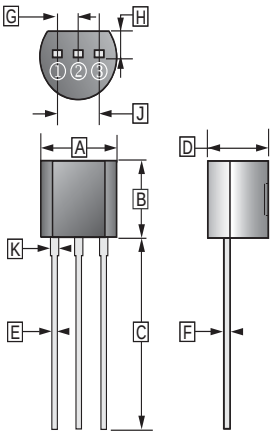
RoHS Compliant Product

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

## FEATURES

- Low frequency amplifier
- High current transistors

**TO-92**




①Emitter
②Collector
③Base

| 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 |

## CLASSIFICATION OF $h_{FE}$

| Product-Rank | BC635 | BC637-16 | BC639-16 |
|---|---|---|---|
| Range | 40~250 | 63~250 | 63~250 |

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

| Parameter | | Symbol | Rating | Unit |
|---|---|---|---|---|
| Collector to Base Voltage | BC635 | $V_{CBO}$ | 45 | V |
| | BC637 | | 60 | |
| | BC639 | | 100 | |
| Collector to Emitter Voltage | BC635 | $V_{CEO}$ | 45 | V |
| | BC637 | | 60 | |
| | BC639 | | 80 | |
| Emitter to Base Voltage | | $V_{EBO}$ | 5 | V |
| Continuous Collector Current | | $I_C$ | 1 | A |
| Collector Power Dissipation | | $P_C$ | 830 | mW |
| Junction, Storage Temperature | | $T_J$, $T_{STG}$ | 150, -65~150 | °C |

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

| Parameter | | Symbol | Min. | Typ. | Max. | Unit | Test Conditions |
|---|---|---|---|---|---|---|---|
| Collector to Emitter Breakdown Voltage | BC635 | $V_{(BR)CEO}$ | 45 | - | - | V | $I_C$=10mA, $I_B$=0 |
| | BC637 | | 60 | - | - | | |
| | BC639 | | 80 | - | - | | |
| Collector Cut - Off Current | | $I_{CBO}$ | - | - | 0.1 | μA | $V_{CB}$=30V, $I_E$=0 |
| Emitter cut-off current | | $I_{CEO}$ | - | - | 0.1 | μA | $V_{EB}$=5V, $I_B$=0 |
| DC Current Gain | | $h_{FE}$ | 25 | - | - | | $V_{CE}$=2V, $I_C$=5mA |
| | | | 25 | - | - | | $V_{CE}$=2V, $I_C$=500mA |
| DC Current Gain | BC635 | | 40 | - | 250 | | $V_{CE}$=2V, $I_C$=150mA |
| | BC637-16 | | 63 | - | 250 | | |
| | BC639-16 | | 63 | - | 250 | | |
| Collector to Emitter Saturation Voltage | | $V_{CE(sat)}$ | - | - | 0.5 | V | $I_C$=500mA, $I_B$=50mA |
| Base-emitter voltage | | $V_{BE}$ | - | - | 1 | V | $V_{CE}$=2V, $I_C$=500mA |
| Transition frequency | | $f_T$ | - | 100 | - | MHz | $V_{CE}$=5V, $I_C$=10mA, f=50MHz |

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## CHARACTERISTIC CURVES