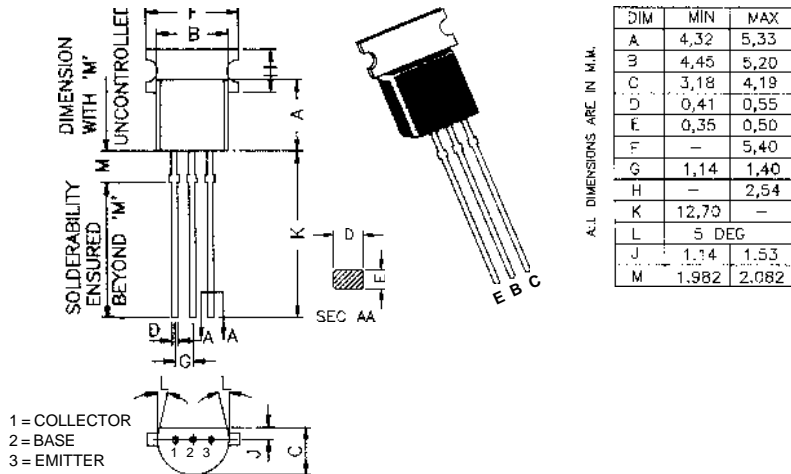


TO-237 Plastic Package

**CTN635, CTN637, CTN639
CTN636, CTN638, CTN640**

*CTN635, 637, 639 NPN SILICON PLANAR EPITAXIAL TRANSISTORS
CTN636, 638, 640 PNP SILICON PLANAR EPITAXIAL TRANSISTORS
Complementary Transistors in Plastic Package for Driver Stage of Audio Amplifier.*



A.L. DIMENSIONS ARE IN M.M.

| DIM | MIN | MAX |
|-----|-------|-------|
| A | 4,32 | 5,33 |
| B | 4,45 | 5,20 |
| C | 3,18 | 4,19 |
| D | 0,41 | 0,55 |
| E | 0,35 | 0,50 |
| F | - | 5,40 |
| G | 1,14 | 1,40 |
| H | - | 2,54 |
| K | 12,70 | - |
| L | 5 DEG | |
| J | 1,14 | 1,53 |
| M | 1,982 | 2,082 |

ABSOLUTE MAXIMUM RATINGS

| Ratings | Symbol | CTN635 | CTN637 | CTN639 | Units |
|--|----------------|--------|-------------|--------|-------|
| | | CTN636 | CTN638 | CTN640 | |
| Collector-Base Voltage | V_{CBO} | 45 | 60 | 100 | V |
| Collector-Emitter Voltage | V_{CEO} | 45 | 60 | 80 | V |
| Emitter-Base Voltage | V_{EBO} | - | 5 | - | V |
| Collector Current - Continuous | I_C | - | 1 | - | A |
| Peak | I_{CM} | - | 1.5 | - | A |
| Base Current - Continuous | I_B | - | 100 | - | mA |
| Peak | I_{BM} | - | 200 | - | mA |
| Power Dissipation @ $T_a=25^\circ C$ | P_D | - | 750 | - | mW |
| Derate above $25^\circ C$ | - | - | 6 | - | mW/°C |
| Power Dissipation @ $T_c=25^\circ C$ | P_D | - | 2.5 | - | W |
| Derate above $25^\circ C$ | - | - | 20 | - | mW/°C |
| Operating And Storage Junction Temperature Range | T_j, T_{stg} | - | -55 to +150 | - | °C |

CTN635, CTN637, CTN639
CTN636, CTN638, CTN640

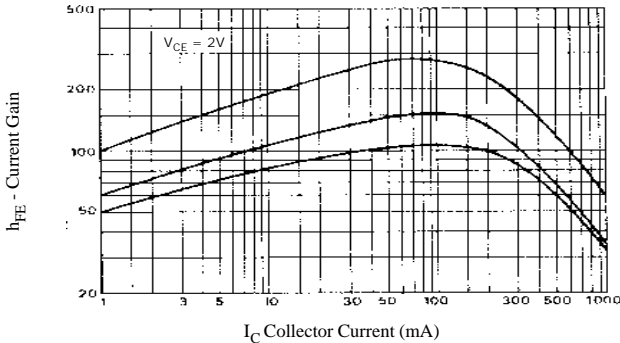
ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$ unless otherwise specified)

| Characteristic | Symbol | Min. | Typ. | Max. | Unit |
|--|-----------------|------|------|------|---------------|
| Collector-Emitter Voltage $I_C=10\text{mA}, I_B=0$ | BV_{CEO} | 45 | - | - | V |
| | | 60 | - | - | V |
| | | 80 | - | - | V |
| Collector-Base Voltage $I_C=100\mu\text{A}, I_E=0$ | BV_{CBO} | 45 | - | - | V |
| | | 60 | - | - | V |
| | | 100 | - | - | V |
| Emitter-Base Voltage $I_E=10\mu\text{A}, I_C=0$ | BV_{EBO} | 5 | - | - | V |
| Collector Cutoff Current $V_{CB}=30\text{V}, I_E=0$ | I_{CBO} | - | - | 100 | nA |
| $V_{CB}=30\text{V}, I_E=0, T_a=125^\circ\text{C}$ | | - | - | 10 | μA |
| Base Emitter On Voltage $I_C=500\text{mA}, V_{CE}=2\text{V}$ | $V_{BE(on)}^*$ | - | - | 1.0 | V |
| Collector-Emitter (Sat) Voltage $I_C=500\text{mA}, I_B=50\text{mA}$ | $V_{CE(sat)}^*$ | - | - | 0.5 | V |
| D.C. Current Gain $I_C=5\text{mA}, V_{CE}=2\text{V}$ | h_{FE} | 25 | - | - | |
| $I_C=150\text{mA}, V_{CE}=2\text{V}^*$ | | 40 | - | 160 | |
| | | 40 | - | 160 | |
| $I_C=500\text{mA}, V_{CE}=2\text{V}^*$ | | 25 | - | - | |
| DYNAMIC CHARACTERISTICS | | | | | |
| Input Capacitance $V_{BE}=0.5\text{V}, I_C=0,$ $f=1\text{MHz}$ | C_{ib} | - | 50 | - | pF |
| | | - | 110 | - | pF |
| Input Capacitance $V_{CB}=10\text{V}, I_C=0,$ $f=1\text{MHz}$ | C_{ob} | - | 7 | - | pF |
| | | - | 9 | - | pF |
| Transition Frequency $I_C=10\text{mA}, V_{CE}=5\text{V},$ $f=35\text{MHz}$ | f_T | - | 130 | - | MHz |
| | | - | 50 | - | MHz |

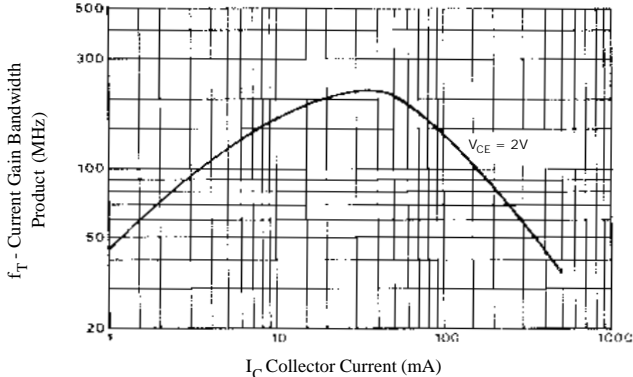
* Pulse Test: Pulse width $\leq 300\mu\text{s}$, Duty cycle $\leq 2\%$.

CTN635, CTN637, CTN639
 CTN636, CTN638, CTN640

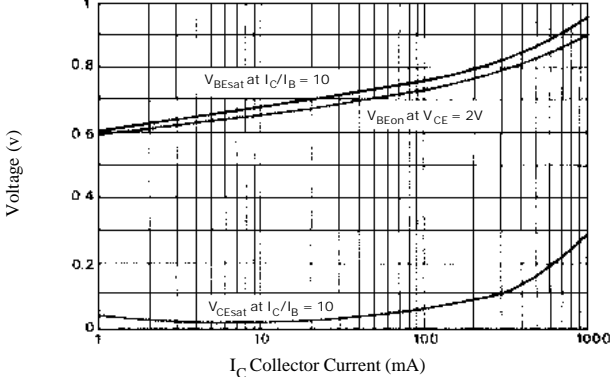
DC Current Gain



Current Gain Bandwidth Product



Saturation and On Voltages



Disclaimer

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