



**CHENMKO ENTERPRISE CO.,LTD**

**CHTA14ZPT**

**SMALL FLAT  
NPN Epitaxial Transistor**

VOLTAGE 30 Volts CURRENT 1 Ampere

Lead free devices

**APPLICATION**

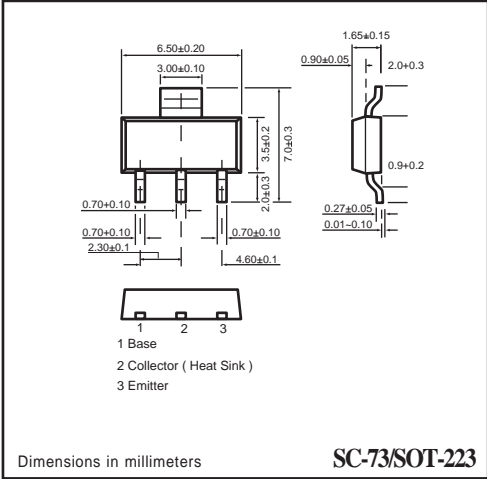
- \* General purpose switching and amplification
- \* Audio power amplifier

**FEATURE**

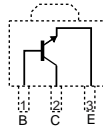
- \* Small flat package. (SC-73/SOT-223)
- \* Saturation voltage  $V_{CE(sat)}=1.5V(max.)$ ( $I_C/I_B=100mA/0.1mA$ )
- \*  $P_b= 2.0W$  (Power Dissipation).
- \* High saturation current capability.

**CONSTRUCTION**

- \* NPN Switching Transistor



**CIRCUIT**



**MAXIMUM RATINGS** ( At  $T_A = 25^{\circ}C$  unless otherwise noted )

| RATINGS                       | CONDITION                       | SYMBOL           | MIN. | MAX. | UNITS         |
|-------------------------------|---------------------------------|------------------|------|------|---------------|
| Collector - Base Voltage      | Open Emitter                    | $V_{CB0}$        | -    | 30   | Volts         |
| Collector - Emitter Voltage   | Open Base                       | $V_{CE0}$        | -    | 30   | Volts         |
| Emitter - Base Voltage        | Open Collector                  | $V_{EB0}$        | -    | 10   | Volts         |
| Collector Current DC          |                                 | $I_C$            | -    | 1    | Amps          |
| Thermal resistance            | junction - case point           | $R_{\theta J-C}$ | -    | 62.5 | $^{\circ}C/W$ |
| Total Power Dissipation       | $T_A \leq 25^{\circ}C$ ; Note 1 | $P_{TOT}$        | -    | 2000 | mW            |
| Storage Temperature           |                                 | $T_{STG}$        | -55  | +150 | $^{\circ}C$   |
| Junction Temperature          |                                 | $T_J$            | -    | +150 | $^{\circ}C$   |
| Operating Ambient Temperature |                                 | $T_{AMB}$        | -55  | +150 | $^{\circ}C$   |

**Note**

1. Transistor mounted on ceramic substrate 50mmX50mmX0.8t.
2. Measured at Pulse Width 300 us, Duty Cycle 2%.

## RATING CHARACTERISTIC CURVES ( CHTA14Z )

**CHARACTERISTICS** ( At  $T_A = 25^\circ\text{C}$  unless otherwise noted )

| PARAMETERS                           | CONDITION  | SYMBOL      | MIN.           | TYPE   | MAX.   | UNITS         |
|--------------------------------------|--|-------------|----------------|--------|--------|---------------|
| Collector Cut-off Current            | $I_E=0; V_{CB}=30\text{V}$                                     | $I_{CBO}$   | -              | -      | 0.1    | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_C=0; V_{EB}=10\text{V}$                                     | $I_{CEO}$   | -              | -      | 0.1    | $\mu\text{A}$ |
| DC Current Gain                      | $V_{CE}=5\text{V}$<br>$I_C=0.01\text{A}$<br>$I_B=0.1\text{mA}$ | $h_{FE}$    | 10000<br>20000 | -<br>- | -<br>- |               |
| Collector-Emitter Saturation Voltage | $I_C=100\text{mA}; I_B=0.1\text{mA}$                           | $V_{CEsat}$ | -              | -      | 1.5    | Volts         |
| Base-Emitter on Voltage              | $I_C=100\text{mA}; V_{CE}=5\text{V}$                           | $V_{BEon}$  | -              | -      | 2.0    | Volts         |
| Collector Capacitance                | $I_E=I_C=0; V_{CB}=10\text{V};$<br>$f=1\text{MHz}$             | $C_C$       | -              | 4.0    | -      | $\text{pF}$   |
| Transition Frequency                 | $I_C=10\text{mA}; V_{CE}=5\text{V};$<br>$f=100\text{MHz}$      | $f_T$       | 125            | -      | -      | $\text{MHz}$  |

# RATING CHARACTERISTIC CURVES ( CHTA14ZPT )

## Typical Electrical Characteristics

Figure 1.  $C_c$  - Reverse  $V_{cb}$

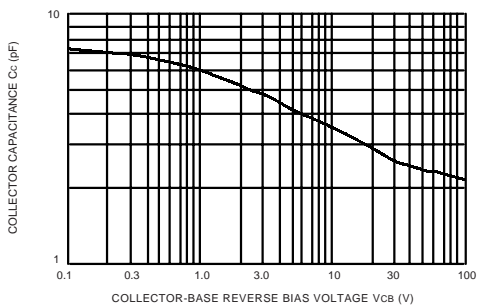


Figure 2.  $h_{FE}$  -  $I_c$

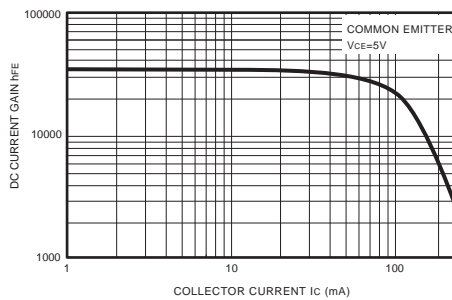


Figure 3.  $V_{CE(sat)}$  -  $I_c$

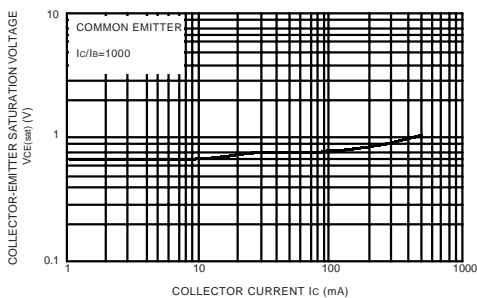


Figure 4.  $V_{BE(on)}$  -  $I_c$

