



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT  
High Voltage PNP Transistor**

VOLTAGE 300 Volts CURRENT 500 mAmpere

**CHTA92LGP**

**APPLICATION**

- \* Small Signal Amplifier .

**FEATURE**

- \* Surface mount package. (SOT-23)
- \* Low saturation voltage  $V_{CE(sat)} = -0.5V(\text{max.})(I_C = -20mA)$
- \* Low cob.  $C_{ob} = 6.0pF(\text{Typ.})$
- \*  $P_D = 300mW$  (mounted on ceramic substrate).
- \* High saturation current capability.

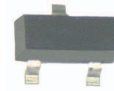
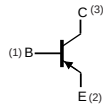
**CONSTRUCTION**

- \* PNP Silicon Transistor
- \* Epitaxial planner type

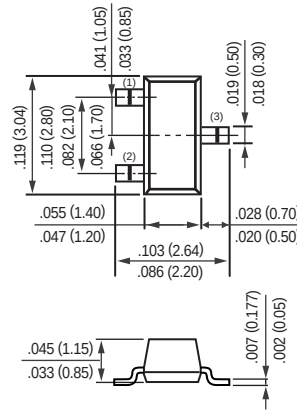
**MARKING**

- \* PA

**CIRCUIT**



**SOT-23**



Dimensions in millimeters

**SOT-23**

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

| RATINGS                       | CONDITION                      | SYMBOL    | MIN. | MAX. | UNITS      |
|-------------------------------|--------------------------------|-----------|------|------|------------|
| Collector - Base Voltage      | Open Emitter                   | $V_{CBO}$ | -    | -300 | Volts      |
| Collector - Emitter Voltage   | Open Base                      | $V_{CEO}$ | -    | -300 | Volts      |
| Emitter - Base Voltage        | Open Collector                 | $V_{EBO}$ | -    | -5.0 | Volts      |
| Collector Current DC          |                                | $I_C$     | -    | -500 | mAmps      |
| Peak Collector Current        |                                | $I_{CM}$  | -    | -500 | mAmps      |
| Peak Base Current             |                                | $I_{BM}$  | -    | -15  | mAmps      |
| Total Power Dissipation       | $T_A \leq 25^\circ C$ ; Note 1 | $P_{TOT}$ | -    | 300  | 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 CHARACTERISTICS ( CHTA92LGP )

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

| PARAMETERS                           | CONDITION                                                                                        | SYMBOL        | MIN. | TYPE | MAX.  | UNITS         |
|--------------------------------------|--------------------------------------------------------------------------------------------------|---------------|------|------|-------|---------------|
| Collector Cut-off Current            | $I_E=0$ ; $V_{CB}=-200\text{V}$                                                                  | $I_{CBO}$     | -    | -    | -0.25 | $\mu\text{A}$ |
| Emitter Cut-off Current              | $I_C=0$ ; $V_{EB}=-3.0\text{V}$                                                                  | $I_{CEO}$     | -    | -    | -0.1  | $\mu\text{A}$ |
| DC Current Gain                      | $V_{CE}=-10\text{V}$ ; Note 1<br>$I_C=-1.0\text{mA}$<br>$I_C=-10\text{mA}$<br>$I_C=-30\text{mA}$ | $h_{FE}$      | 25   | -    | -     |               |
|                                      |                                                                                                  |               | 40   | -    | -     |               |
|                                      |                                                                                                  |               | 25   | -    | -     |               |
|                                      |                                                                                                  |               |      | -    | -     |               |
| Collector-Emitter Saturation Voltage | $I_C=-20\text{mA}$ ; $I_B=-2\text{mA}$                                                           | $V_{CE(sat)}$ | -    | -    | -0.5  | Volts         |
| Base-Emitter Saturatio Voltage       | $I_C=-20\text{mA}$ ; $I_B=-2\text{mA}$                                                           | $V_{BE(sat)}$ | -    | -    | -0.9  | Volts         |
| Output Collector Capacitance         | $I_E=I_C=0$ ; $V_{CB}=-20\text{V}$ ;<br>$f=1\text{MHz}$                                          | $C_{ob}$      | -    | -    | 6.0   | $\text{pF}$   |
| Transition Frequency                 | $I_C=10\text{mA}$ ; $V_{CE}=-20\text{V}$ ;<br>$f=100\text{MHz}$                                  | $f_T$         | 50   | -    | -     | $\text{MHz}$  |

**Note :**

1. Pulse test:  $t_p \leq 300\mu\text{Sec}$ ;  $\delta \leq 0.02$ .

## RATING CHARACTERISTIC CURVES ( CHTA92LGP )

Figure 1. DC Current Gain

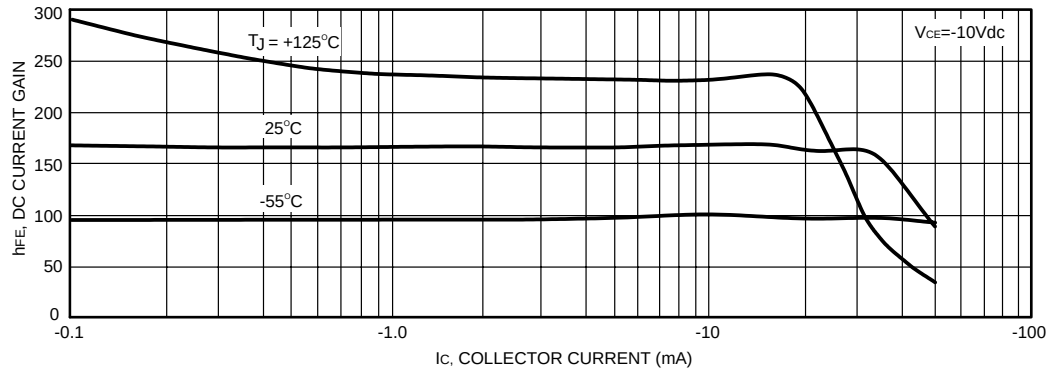


Figure 2. Capacitance

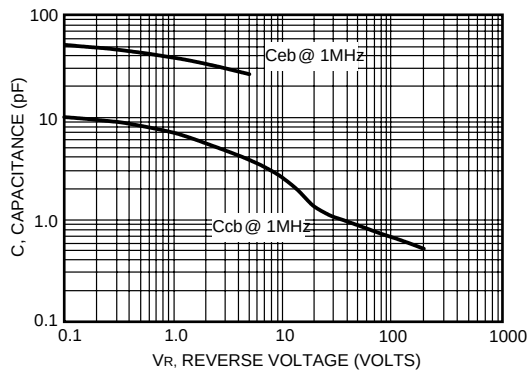


Figure 3. Current-Gain - Bandwidth

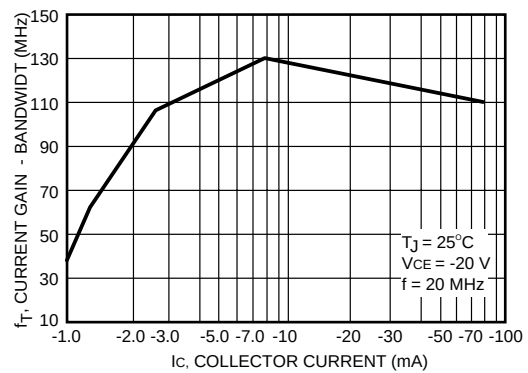
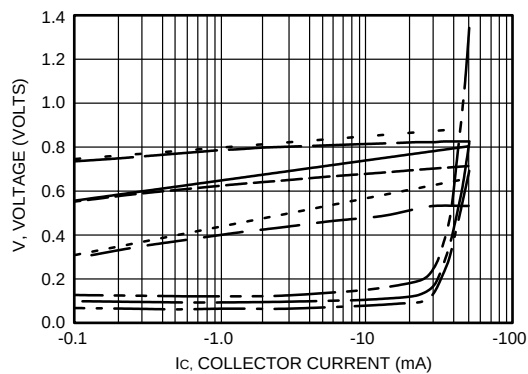


Figure 4. "ON" Voltages



- $V_{CE}(\text{sat})@25^\circ\text{C}, I_C/I_B=10$
- $V_{CE}(\text{sat})@125^\circ\text{C}, I_C/I_B=10$
- $V_{CE}(\text{sat})@-55^\circ\text{C}, I_C/I_B=10$
- $V_{BE}(\text{sat})@25^\circ\text{C}, I_C/I_B=10$
- $V_{BE}(\text{sat})@125^\circ\text{C}, I_C/I_B=10$
- $V_{BE}(\text{sat})@-55^\circ\text{C}, I_C/I_B=10$
- $V_{BE}(\text{on})@25^\circ\text{C}, V_{CE}=-10\text{V}$
- $V_{BE}(\text{on})@125^\circ\text{C}, V_{CE}=-10\text{V}$
- $V_{BE}(\text{on})@-55^\circ\text{C}, V_{CE}=-10\text{V}$