# CHENMKO ENTERPRISE CO.,LTD

**CHT05N1PT**

Lead free devices

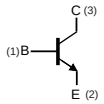
## SURFACE MOUNT
## NPN General Purpose Transistor -
*VOLTAGE 60 Volts CURRENT 0.5 Ampere*

### APPLICATION
* General purpose applications.

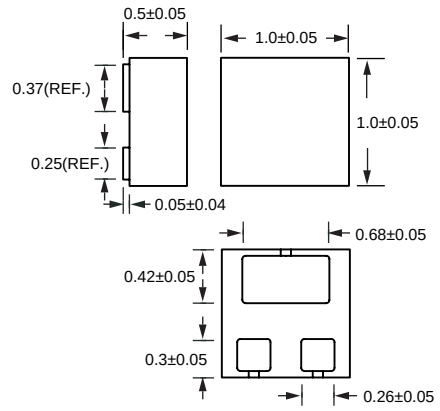
### FEATURE
* Small surface mounting type. (FBPT-923)
* Low current (Max.=500mA).
* Suitable for high packing density.
* Low voltage (Max.=60V) .
* High saturation current capability.

### CONSTRUCTION
* NPN General Purpose Transistor

### CIRCUIT




FBPT-923




Dimensions in millimeters

FBPT-923

### LIMITING VALUES
In accordance with the Absolute Maximum Rating System (IEC 60134).

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|---|---|---|---|---|---|
| $V_{CBO}$ | collector-base voltage | open emitter | – | 60 | V |
| $V_{CEO}$ | collector-emitter voltage | open base | – | 60 | V |
| $V_{EBO}$ | emitter-base voltage | open collector | – | 6 | V |
| $I_C$ | collector current DC | | – | 500 | mA |
| $I_{CM}$ | peak collector current | | – | 500 | mA |
| $I_{BM}$ | peak base current | | – | 100 | mA |
| $P_{tot}$ | total power dissipation | $T_{amb} \leq 25$ °C; note 1 | – | 100 | mW |
| $T_{stg}$ | storage temperature | | –55 | +150 | °C |
| $T_j$ | junction temperature | | – | +150 | °C |
| $T_{amb}$ | operating ambient temperature | | –55 | +150 | °C |

2006-07

**Note**

1. Transistor mounted on an FR4 printed-circuit board.

# RATING CHARACTERISTIC CURVES ( CHT05N1PT )

**THERMAL CHARACTERISTICS**

| SYMBOL | PARAMETER | CONDITIONS | VALUE | UNIT |
|---|---|---|---|---|
| $R_{th\ j\text{-}a}$ | thermal resistance from junction to ambient | note 1 | 357 | K/W |

**Note**

1. Transistor mounted on an FR4 printed-circuit board.

**CHARACTERISTICS**

$T_{amb}$ = 25 °C unless otherwise speciÞed.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|---|---|---|---|---|---|
| $I_{CBO}$ | collector cut-off current | $I_E$ = 0; $V_{CB}$ = 60 V | – | 0.1 | uA |
| $I_{EBO}$ | emitter cut-off current | $I_C$ = 0; $V_{EB}$ = 4 V | – | 0.1 | uA |
| $h_{FE}$ | DC current gain | $V_{CE}$ = 1.0 V; note 1 | | | |
| | | $I_C$ = 10 mA | 100 | – | |
| | | $I_C$ = 100 mA | 100 | – | |
| $V_{CEsat}$ | collector-emitter saturation voltage | $I_C$ = 100 mA; $I_B$ =10 mA | – | 0.25 | V |
| $V_{BEon}$ | base-emitter voltage | $I_C$ = 100 mA; $V_{CE}$ = 1.0 V | – | 1.2 | V |
| $C_{cb}$ | collector-base capacitance | $I_E$ = $i_e$ = 0; $V_{CB}$ =10V; f = 1 MHz | – | 10 | pF |
| $f_T$ | transition frequency | $I_C$ = 100 mA; $V_{CE}$ =1.0 V ; f = 100 MHz | 80 | – | MHz |

**Note**

1. Pulse test: $t_p \leq 300\ \mu s$; $\delta \leq 0.02$.