



**CHENMKO ENTERPRISE CO.,LTD**

*Halogens free devices*

**SURFACE MOUNT  
PNP Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 500 mAmpere

**CHDTB114TKGP**

**APPLICATION**

\* Switching circuit, Inverter, Interface circuit, Driver circuit.

**FEATURE**

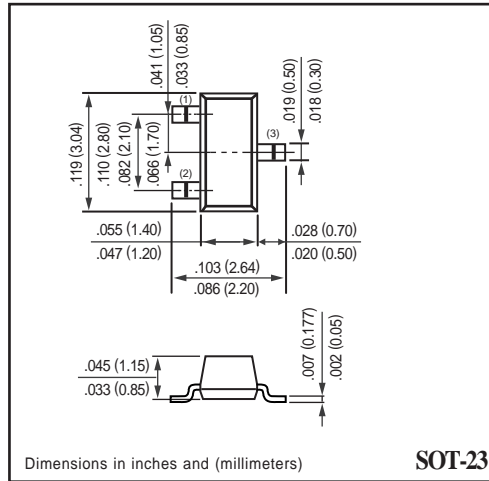
- \* Small surface mounting type. (SOT-23)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Internal isolated PNP transistors in one package.
- \* Built in bias resistor(R1=10kΩ, Typ. )

**CONSTRUCTION**

\* One PNP transistors and bias of thin-film resistors in one package.

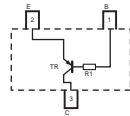


**SOT-23**



**SOT-23**

**CIRCUIT**



**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System .

| SYMBOL | PARAMETER                   | CONDITIONS                       | VALUE    | UNIT |
|--------|-----------------------------|----------------------------------|----------|------|
| Vcbo   | Collector-Base voltage      |                                  | -50      | V    |
| Vceo   | Collector-Emitter voltage   |                                  | -40      | V    |
| Vebo   | Emitter-Base voltage        |                                  | -5       | V    |
| Ic     | Collector current           |                                  | -500     | mA   |
| Pc     | Collector Power dissipation | T <sub>amb</sub> ≤ 25 °C, Note 1 | 200      | mW   |
| Tstg   | Storage temperature         |                                  | -55 +150 | °C   |
| Tj     | Junction temperature        |                                  | -55 +150 | °C   |
| RθJ-s  | Thermal resistance , Note 1 | junction - soldering point       | 140      | °C/W |

**Note**

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

## RATING CHARACTERISTIC ( CHDTB114TKGP )

### CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| SYMBOL         | PARAMETER                            | CONDITIONS  | MIN.  | TYP. | MAX. | UNIT          |
|----------------|--------------------------------------|---|-------|------|------|---------------|
| BVCBO          | Collector-Base breakdown voltage     | $I_C = -50\mu\text{A}$  | -50.0 | -    | -    | V             |
| BVCEO          | Collector-Emitter breakdown voltage  | $I_C = -1\text{mA}$   | -40.0 | -    | -    | V             |
| BVEBO          | Emitter-Base breakdown voltage       | $I_E = -50\mu\text{A}$  | -5.0  | -    | -    | V             |
| VCE(sat)       | Collector-Emitter Saturation voltage | $I_C = -50\text{mA}; I_B = -2.5\text{mA}$                         | -     | -    | -0.3 | V             |
| ICBO           | Collector-Base current               | $V_{CB} = -50\text{V}$  | -     | -    | -0.5 | $\mu\text{A}$ |
| IEBO           | Emitter-Base current                 | $V_{EB} = -4\text{V}$   | -     | -    | -0.5 | $\mu\text{A}$ |
| hFE            | DC current gain                      | $I_C = -50\text{mA}; V_{CE} = -5.0\text{V}$                       | 100   | 250  | 600  |               |
| R <sub>1</sub> | Input resistor                       |   | 7     | 10   | 13   | K $\Omega$    |
| f <sub>T</sub> | Transition frequency                 | $I_E = 5\text{mA}, V_{CE} = -10.0\text{V}$<br>$f = 100\text{MHz}$ | -     | 250  | -    | MHz           |

### Note

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