



**CHENMKO ENTERPRISE CO.,LTD**

**CHIMB3PT**

**SURFACE MOUNT**

**Dual Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

Lead free devices

**APPLICATION**

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

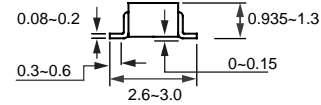
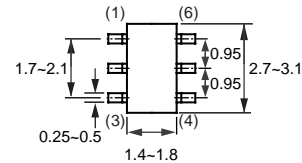
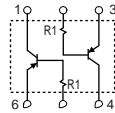
**FEATURE**

- \* Small surface mounting type. (SC-74/SOT-457)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Both the CHDTA143T in one package.
- \* Built in bias resistor(R1=4.7kΩ, Typ. )



SC-74/SOT-457

**CIRCUIT**



Dimensions in millimeters

SC-74/SOT-457

**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System (IEC60134).

| SYMBOL   | PARAMETER                   | CONDITIONS                 | VALUE    | UNIT |
|----------|-----------------------------|----------------------------|----------|------|
| Vcbo     | Collector-Base voltage      |                            | -50      | V    |
| Vceo     | Collector-Emitter voltage   |                            | -50      | V    |
| Vebo     | Emitter-Base voltage        |                            | -5       | V    |
| Ic(Max.) | Collector current           |                            | -100     | mA   |
| Pd       | Power dissipation           | Tamb ≤ 25 °C, Note 1       | 300      | 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 ( CHIMB3PT )

### 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  | $I_C = -1\text{mA}$   | -50.0 | –    | –    | V             |
| BVEBO          | Emitter-Base breakdown voltage       | $I_E = -50\mu\text{A}$  | -5.0  | –    | –    | V             |
| VCE(sat)       | Collector-Emitter Saturation voltage | $I_C = -5\text{mA}; I_B = -0.25\text{mA}$                         | –     | –    | -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                      | $I_C = -1\text{mA}; V_{CE} = -5.0\text{V}$                        | 100   | 250  | 600  |               |
| R <sub>1</sub> | Input resistor                       |   | 3.29  | 4.7  | 6.11 | 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:  $t_p \leq 300\mu\text{s}; \delta \leq 0.02$ .

## RATING CHARACTERISTIC CURVES ( CHIMB3PT )

### Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

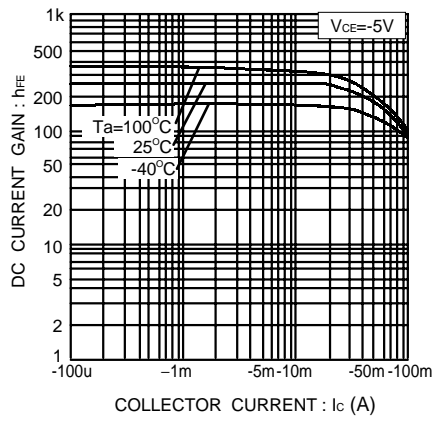


Fig.2 Collector-emitter saturation voltage vs. collector current

