



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

SURFACE MOUNT

Dual Digital Silicon Transistor

VOLTAGE 50 Volts CURRENT 50 mAmpere

CHUMB11GP

#### APPLICATION

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

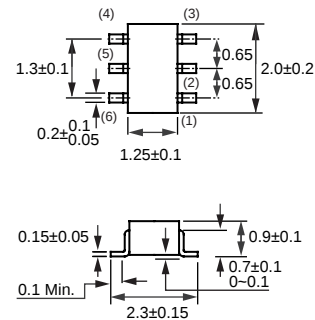
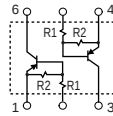
#### FEATURE

- \* Small surface mounting type. (SC-88/SOT-363)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Two CHDTA114E chips in a package.
- \* Built in bias resistor(R1=10kΩ, Typ. )



SC-88/SOT-363

#### CIRCUIT



Dimensions in millimeters

SC-88/SOT-363

#### LIMITING VALUES

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

| SYMBOL               | PARAMETER               | CONDITIONS                       | MIN. | MAX. | UNIT |
|----------------------|-------------------------|----------------------------------|------|------|------|
| V <sub>CC</sub>      | Supply voltage          |                                  | —    | -50  | V    |
| V <sub>IN</sub>      | Input voltage           |                                  | -40  | +10  | V    |
| I <sub>O</sub>       | DC Output current       |                                  | —    | -50  | mA   |
| I <sub>C(Max.)</sub> |                         |                                  | —    | -100 |      |
| P <sub>TOT</sub>     | Total power dissipation | T <sub>amb</sub> ≤ 25 °C, Note 1 | —    | 150  | mW   |
| T <sub>STG</sub>     | Storage temperature     |                                  | -55  | +150 | °C   |
| T <sub>J</sub>       | Junction temperature    |                                  | —    | 150  | °C   |
| R <sub>θJ-S</sub>    | Thermal resistance      | junction - soldering point       | —    | 140  | °C/W |

#### Note

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

## RATING CHARACTERISTIC ( CHUMB11GP )

### CHARACTERISTICS

T<sub>amb</sub> = 25 °C unless otherwise specified.

| SYMBOL                         | PARAMETER            | CONDITIONS                                                | MIN. | TYP. | MAX.  | UNIT |
|--------------------------------|----------------------|-----------------------------------------------------------|------|------|-------|------|
| V <sub>I(off)</sub>            | Input off voltage    | I <sub>O</sub> =-100uA; V <sub>CC</sub> =-5.0V            | -0.5 | —    | —     | V    |
| V <sub>I(on)</sub>             | Input on voltage     | I <sub>O</sub> =-10mA; V <sub>O</sub> =-0.3V              | —    | —    | -3.0  | V    |
| V <sub>O(on)</sub>             | Output voltage       | I <sub>O</sub> =-10mA; I <sub>I</sub> =-0.5mA             | —    | 0.1  | -0.3  | V    |
| I <sub>I</sub>                 | Input current        | V <sub>I</sub> =-5V                                       | —    | —    | -0.88 | mA   |
| I <sub>C(off)</sub>            | Output current       | V <sub>I</sub> =0V; V <sub>CC</sub> =-50V                 | —    | —    | -0.5  | uA   |
| h <sub>FE</sub>                | DC current gain      | I <sub>O</sub> =-5mA; V <sub>O</sub> =-5.0V               | 30   | —    | —     |      |
| R <sub>1</sub>                 | Input resistor       |                                                           | 7.0  | 10.0 | 13.0  | KΩ   |
| R <sub>2</sub> /R <sub>1</sub> | Resistor ratio       |                                                           | 0.8  | 1.0  | 1.2   |      |
| f <sub>T</sub>                 | Transition frequency | I <sub>C</sub> =-5mA, V <sub>CE</sub> =-10.0V<br>f=100MHz | —    | 250  | —     | MHz  |

### Note

1.Pulse test: t<sub>p</sub>≤300uS; δ≤0.02.

## RATING CHARACTERISTIC CURVES ( CHUMB11GP )

### Typical Electrical Characteristics

Fig.1 Input voltage vs. output current  
(ON characteristics)

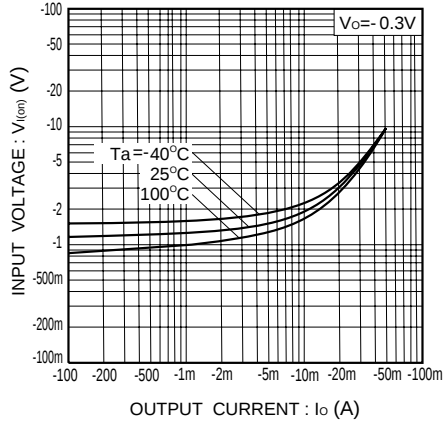


Fig.2 Output current vs. input voltage  
(OFF characteristics)

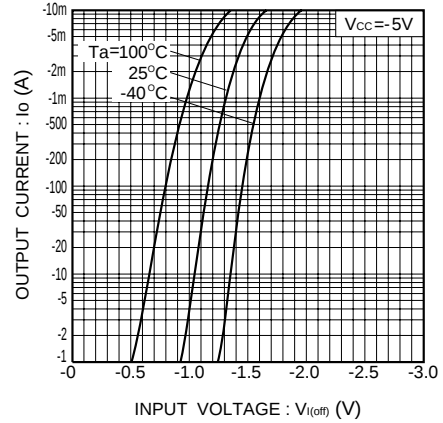


Fig.3 DC current gain vs. output current

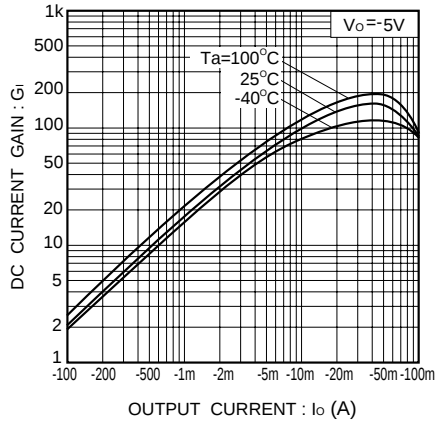


Fig.4 Output voltage vs. output current

