



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
Dual Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

CHUMH4GP

APPLICATION

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

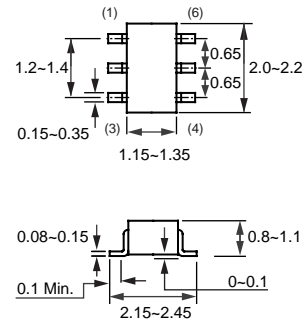
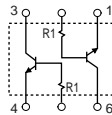
FEATURE

- * Small surface mounting type. (SC-88/SOT-363)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Both the CHDTC114T in one 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 _{CC} | Supply voltage | | — | 50 | V |
| V _{IN} | Input voltage | | | -5 | V |
| I _O | DC Output current | | — | 100 | mA |
| I _{C(Max.)} | | | — | 100 | |
| P _{TOT} | Total power dissipation | T _{amb} ≤ 25 °C, Note 1 | — | 200 | mW |
| T _{STG} | Storage temperature | | -55 | +150 | °C |
| T _J | Junction temperature | | — | 150 | °C |
| R _{θJ-S} | Thermal resistance | junction - Ambient Air | — | 625 | °C/W |

Note

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

RATING CHARACTERISTIC (CHUMH4GP)

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 | – | – | V |
| BVCEO | Collector-emitter breakdown voltage | $I_C=1.0\text{mA}$ | 50 | – | – | V |
| BVEBO | Emitter-base breakdown voltage | $I_E=50\mu\text{A}$ | 5.0 | – | – | V |
| ICBO | Collector cutoff current | $V_{CB}=50\text{V}$ | – | – | 0.5 | μA |
| IEBO | Emitter cutoff current | $V_{EB}=4\text{V}$ | – | – | 0.5 | μA |
| $V_{CE(sat)}$ | Collector-emitter saturation voltage | $I_C/I_B=1\text{mA}/0.1\text{mA}$ | – | – | 0.3 | V |
| h_{FE} | DC current gain | $I_C=1\text{mA}; V_{CE}=5.0\text{V}$ | 100 | 250 | 600 | |
| R_1 | Input resistor | | 7.0 | 10.0 | 13.0 | $\text{K}\Omega$ |
| f_T | Transition frequency | $I_E=-5\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$ | – | 250 | – | MHz |

Note

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

RATING CHARACTERISTIC CURVES (CHUMH4GP)

Typical Electrical Characteristics

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

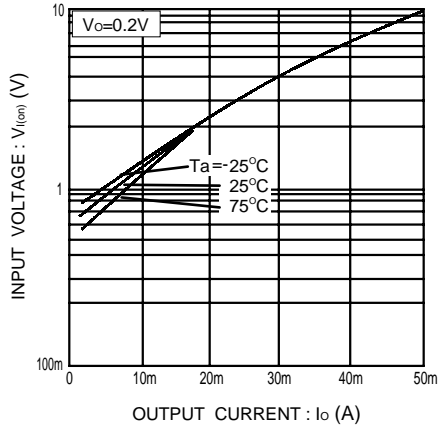


Fig.2 Output current vs. input voltage (OFF characteristics)

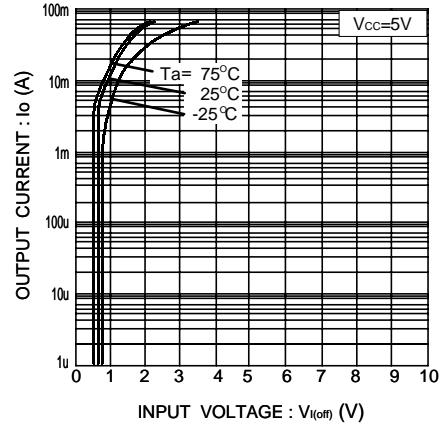


Fig.3 DC current gain vs. output current

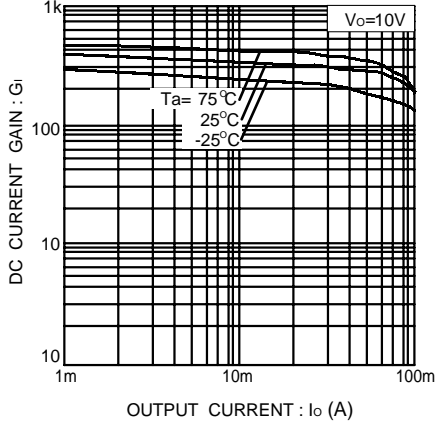


Fig.4 Output voltage vs. output current

