



CHENMKO ENTERPRISE CO.,LTD

CHDTC114GKPT

**SURFACE MOUNT
NPN 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-59/SOT-346)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Internal isolated NPN transistors in one package.
- * Built in bias resistor(R1=10kΩ, Typ.)

CONSTRUCTION

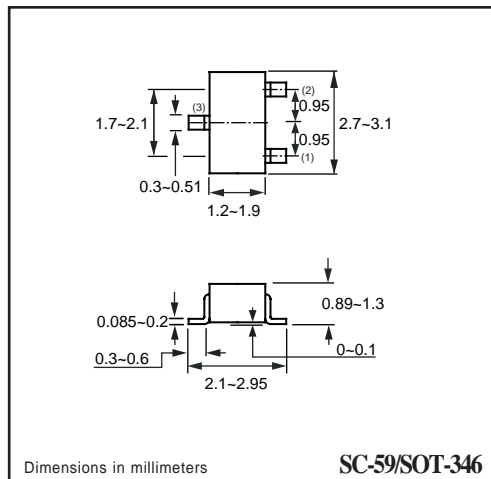
* One NPN transistors and bias of thin-film resistors in one package.

MARKING

EKA

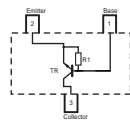


SC-59/SOT-346



SC-59/SOT-346

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 | | 50 | V |
| Vebo | Emitter-Base voltage | | 5 | V |
| Ic(Max.) | Collector current | | 100 | mA |
| Pd | Power dissipation | T _{amb} ≤ 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 (CHDTC114GKPT)

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 | $I_E=720\mu\text{A}$ | 5.0 | – | – | V |
| VCE(sat) | Collector-Emitter Saturation voltage | $I_C=10\text{mA}; I_B=0.5\text{mA}$ | – | – | 0.3 | V |
| ICBO | Collector-Base current | $V_{CB}=50\text{V}$ | – | – | 0.5 | μA |
| IEBO | Emitter-Base current | $V_{EB}=4\text{V}$ | 300 | – | 580 | μA |
| hFE | DC current gain | $I_C=5\text{mA}; V_{CE}=5.0\text{V}$ | 30 | – | – | |
| R1 | Input resistor | | 7.0 | 10 | 13 | $\text{K}\Omega$ |
| fT | Transition frequency | $I_E=-5\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$ | – | 250 | – | MHz |

Note

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