



**CHENMKO ENTERPRISE CO.,LTD**

**CHDTC124GUPT**

**SURFACE MOUNT  
NPN Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

*Lead free devices*

**APPLICATION**

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

**FEATURE**

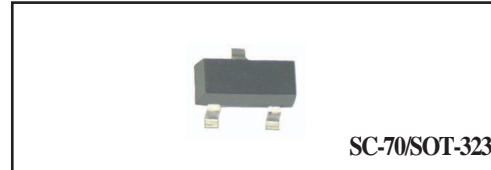
- \* Small surface mounting type. (SC-70/SOT-323)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Internal isolated NPN transistors in one package.
- \* Built in bias resistor(R1=22kΩ, Typ. )

**CONSTRUCTION**

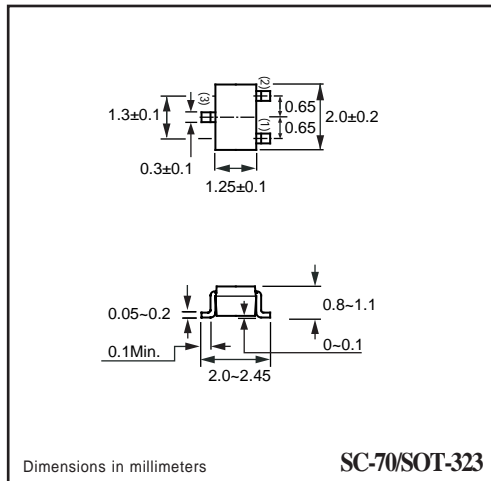
\* One NPN transistors and bias of thin-film resistors in one package.

**MARKING**

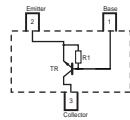
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**SC-70/SOT-323**



**CIRCUIT**



**LIMITING VALUES**

In accordance with the Absolute Maximum Rating System .

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base voltage		50	V
V <sub>CEO</sub>	Collector-Emitter voltage		50	V
V <sub>EBO</sub>	Emitter-Base voltage		5	V
I <sub>C(Max.)</sub>	Collector current		100	mA
P <sub>D</sub>	Power dissipation	T <sub>amb</sub> ≤ 25 °C, Note 1	200	mW
T <sub>STG</sub>	Storage temperature		-55 +150	°C
T <sub>J</sub>	Junction temperature		-55 +150	°C
R <sub>θJ-S</sub>	Thermal resistance , Note 1	junction - soldering point	140	°C/W

**Note**

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

## RATING CHARACTERISTIC ( CHDTC124GUPT )

### 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	$I_E=330\mu\text{A}$	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	$\mu\text{A}$
IEBO	Emitter-Base current	$V_{EB}=4\text{V}$	140	–	260	$\mu\text{A}$
hFE	DC current gain	$I_C=5\text{mA}; V_{CE}=5.0\text{V}$	56	–	–	
R <sub>1</sub>	Input resistor		15.4	22	28.6	$\text{K}\Omega$
f <sub>T</sub>	Transition frequency	$I_E=-5\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$	–	250	–	MHz

### Note

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