



**CHENMKO ENTERPRISE CO.,LTD**

**CHDTA113TUPT**

**SURFACE MOUNT  
PNP Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

*Lead free devices*

**APPLICATION**

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

**FEATURE**

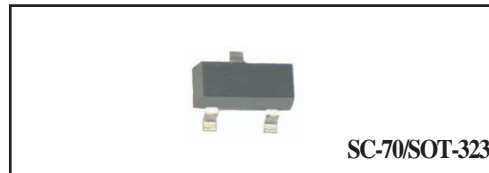
- \* Small surface mounting type. (SC-70/SOT-323)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Internal isolated PNP transistors in one package.
- \* Built in bias resistor(R1=1.0kΩ, Typ. )

**CONSTRUCTION**

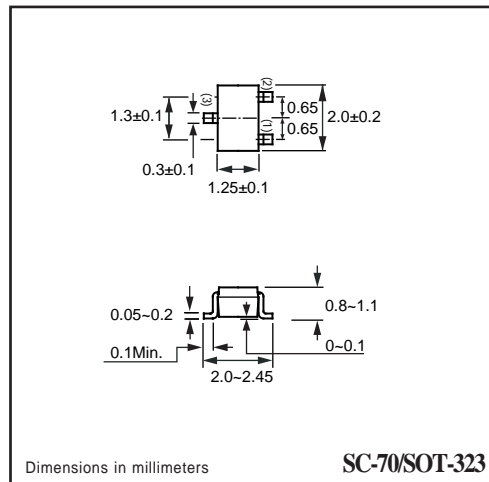
\* One PNP transistors and bias of thin-film resistors in one package.

**MARKING**

\* TU7



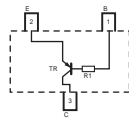
**SC-70/SOT-323**



Dimensions in millimeters

**SC-70/SOT-323**

**CIRCUIT**



**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	T <sub>amb</sub> ≤ 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.

2005-06

## RATING CHARACTERISTIC ( CHDTA113TUPT )

### 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		0.7	1.0	1.3	K $\Omega$
f <sub>T</sub>	Transition frequency	$I_E = 5\text{mA}, V_{CB} = -10.0\text{V}$ $f = 100\text{MHz}$	–	250	–	MHz

### Note

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

# RATING CHARACTERISTIC CURVES ( CHDTA113TUPT )

## Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

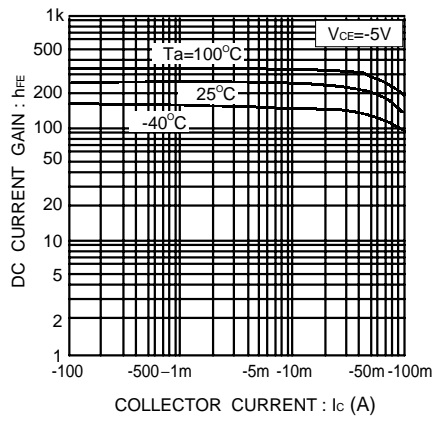


Fig.2 Collector-emitter saturation voltage vs. collector current

