



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

CHDTC114GUGP

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=10kΩ, Typ.)

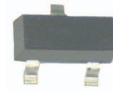
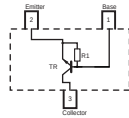
CONSTRUCTION

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

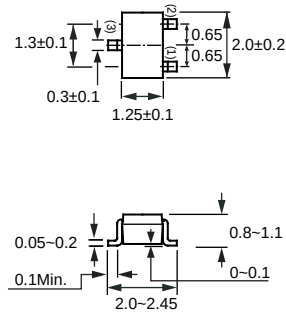
MARKING

GUA

CIRCUIT



SC-70/SOT-323



Dimensions in millimeters

SC-70/SOT-323

LIMITING VALUES

In accordance with the Absolute Maximum Rating System .

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-Base voltage		50	V
V _{CEO}	Collector-Emitter voltage		50	V
V _{EB0}	Emitter-Base voltage		5	V
I _{C(Max.)}	Collector current		100	mA
P _D	Power dissipation	T _{amb} ≤ 25 °C, Note 1	200	mW
T _{STG}	Storage temperature		-55 +150	°C
T _J	Junction temperature		-55 +150	°C
R _{θJ-S}	Thermal resistance , Note 1	junction - soldering point	140	°C/W

Note

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

RATING CHARACTERISTIC (CHDTC114GUGP)

CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV _{CBO}	Collector-Base breakdown voltage	I _C =50uA	50.0	–	–	V
BV _{CEO}	Collector-Emitter breakdown voltage	I _C =1mA	50.0	–	–	V
BV _{EBO}	Emitter-Base breakdown voltage	I _E =720uA	5.0	–	–	V
V _{CE(sat)}	Collector-Emitter Saturation voltage	I _C =10mA; I _B =0.5mA	–	–	0.3	V
I _{CBO}	Collector-Base current	V _{CB} =50V	–	–	0.5	uA
I _{EBO}	Emitter-Base current	V _{EB} =4V	300	–	580	uA
h _{FE}	DC current gain	I _C =5mA; V _{CE} =5.0V	30	–	–	
R ₁	Input resistor		7.0	10	13	KΩ
f _T	Transition frequency	I _E =-5mA, V _{CE} =10.0V f=100MHz	–	250	–	MHz

Note

1.Pulse test: t_p≤300uS; δ ≤0.02.