



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

SURFACE MOUNT
NPN Digital Silicon Transistor

VOLTAGE 50 Volts CURRENT 100 mAmpere

CHDTC114TUGP

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 single resistor(R1=10kΩ, Typ.)

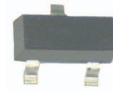
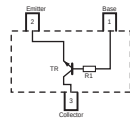
CONSTRUCTION

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

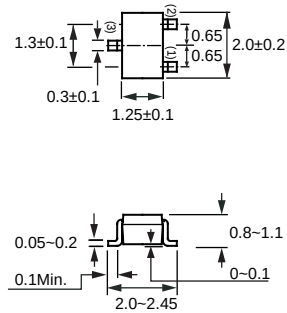
MARKING

TUB

CIRCUIT



SC-70/SOT-323



Dimensions in millimeters

SC-70/SOT-323

LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

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	Tamb ≤ 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 (CHDTC114TUGP)

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	–	–	V
BV _{CEO}	Collector-emitter breakdown voltage	I _C =1.0mA	50	–	–	V
BV _{EBO}	Emitter-base breakdown voltage	I _E =50uA	5.0	–	–	V
I _{CBO}	Collector cutoff current	V _{CB} =50V	–	–	0.5	uA
I _{EBO}	Emitter cutoff current	V _{EB} =4V	–	–	0.5	uA
V _{CE(sat)}	Collector-emitter saturation voltage	I _C /I _B =10mA/1mA	–	–	0.3	V
h _{FE}	DC current gain	I _C =1mA; V _{CE} =5.0V	100	300	600	
R ₁	Input resistor		7.0	10.0	13.0	KΩ
f _T	Transition frequency	I _C =5mA, V _{CE} =10.0V f=100MHz	–	250	–	MHz

Note

1.Pulse test: t_p≤300uS; δ≤0.02.

RATING CHARACTERISTIC CURVES (CHDTC114TUGP)

Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

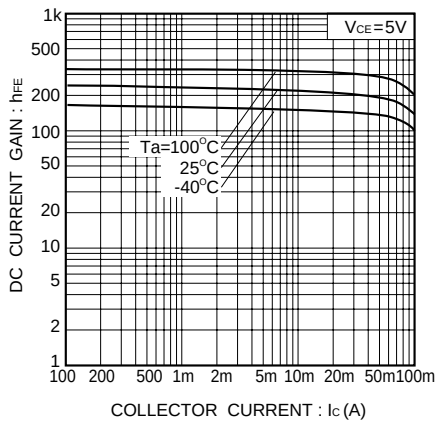


Fig.2 Collector-emitter voltage vs. collector current

