



CHENMKO ENTERPRISE CO.,LTD

CHDTC614TUPT

Lead free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 20 Volts CURRENT 600 mAmpere

APPLICATION

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

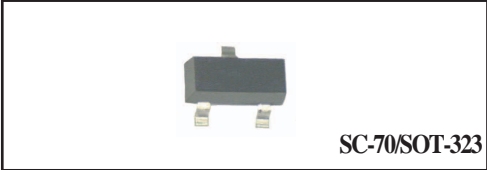
FEATURE

- * Small surface mounting type. (SC-70/SOT-323)
- * In addition to the features of regular digital transistor.
V_{CE(sat)}=40mV at I_C/I_B=50mA/2.5mA, makes these transistors ideal for muting circuits.
- * These transistors can be used at high current levels, I_C=600mA
- * Internal isolated NPN transistors in one package.
- * Built in single resistor(R1=10kΩ, Typ.)

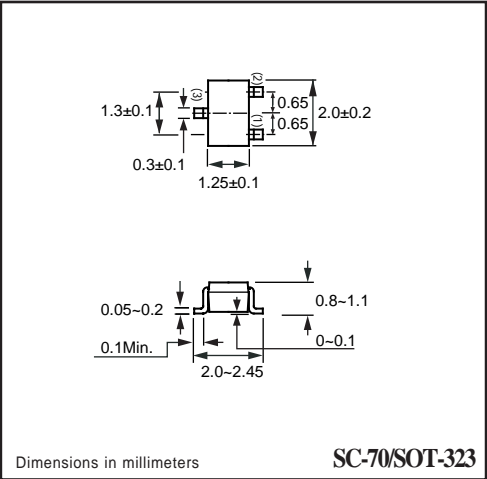
CONSTRUCTION

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

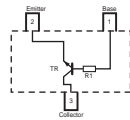
MARKING



SC-70/SOT-323



CIRCUIT



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V _{CBO}	Collector-Base voltage		20	V
V _{CEO}	Collector-Emitter voltage		20	V
V _{EBO}	Emitter-Base voltage		12	V
I _{C(Max.)}	Collector current		600	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	

Note

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

RATING CHARACTERISTIC (CHDTC614TUPT)

CHARACTERISTICS

$T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV _{CB0}	Collector-base breakdown voltage	I _C =50μA	20	–	–	V
BV _{CEO}	Collector-emitter breakdown voltage	I _C =1.0mA	20	–	–	V
BV _{EB0}	Emitter-base breakdown voltage	I _E =50μA	12	–	–	V
I _{CBO}	Collector cutoff current	V _{CB} =20V	–	–	0.5	μA
I _{EBO}	Emitter cutoff current	V _{EB} =12V	–	–	0.5	μA
V _{CE(sat)}	Collector-emitter saturation voltage	I _C /I _B =50mA/2.5mA	–	40	150	mV
h _{FE}	DC current gain	I _C =50mA; V _{CE} =5.0V	820	–	2700	
R ₁	Input resistor		7	10	13	KΩ
f _T	Transition frequency	I _E =-50mA, V _{CE} =10.0V f=100MHz	–	150	–	MHz
R _{ON}	Output "ON" resistance	V _I =5V, R _L =1KΩ, f=1KHz	–	0.9	–	Ω

Note

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

RATING CHARACTERISTIC CURVES (CHDTC614TUPT)

Typical Electrical Characteristics

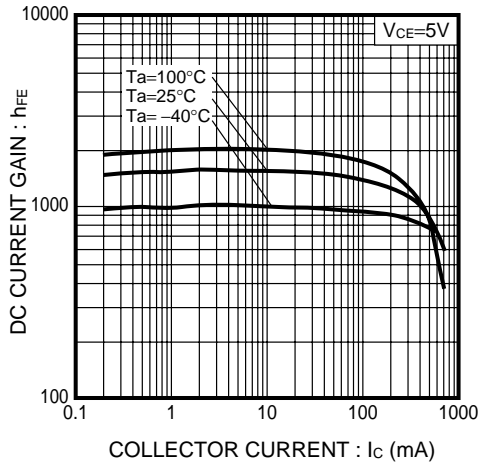


Fig.1 DC Current Gain vs. Collector Current

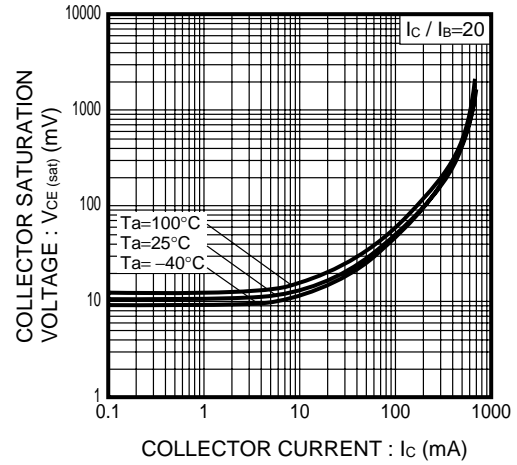


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

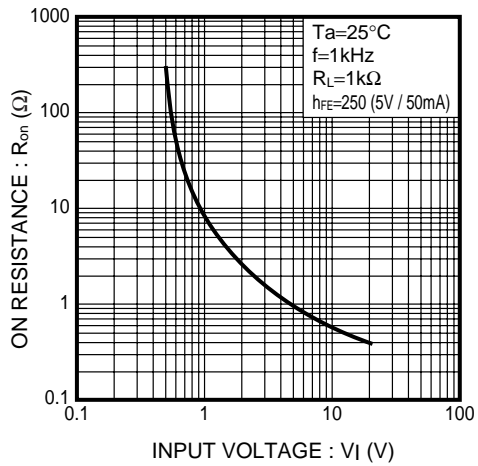


Fig.3 "ON" resistance vs. Input Voltage