CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

CHDTC614TUGP

SURFACE MOUNT
NPN Digital Silicon Transistor
VOLTAGE 20 Volts CURRENT 600 mAmpere

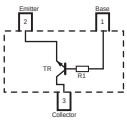
APPLICATION
* Switching circuit, Inverter, Interface circuit, Driver circuit.

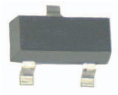
FEATURE
* Small surface mounting type. (SC-70/SOT-323)
* In addition to the features of regular digital transistor.
  V_{CE}(sat)=40mV at I_C/I_B=50mA/2.5mA,makes these transistors ideal for muting circuits.
* These transistors can be used at high current levels,I_C=600mA
* Internal isolated NPN transistors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

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

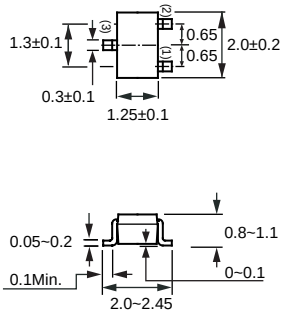
MARKING

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
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	$T_{amb} \leq 25\ ^{o}C$, Note 1	200	mW
T_{STG}	Storage temperature		−55 +150	^{o}C ^{o}C
T_J	Junction temperature		−55 +150	

Note

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

RATING CHARACTERISTIC (CHDTC614TUGP)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV_{CBO}	Collector-base breakdown voltage	I_C=50uA	20	–	–	V
BV_{CEO}	Collector-emitter breakdown voltage	I_C=1.0mA	20	–	–	V
BV_{EBO}	Emitter-base breakdown voltage	I_E=50uA	12	–	–	V
I_{CBO}	Collector cutoff current	V_{CB}=20V	–	–	0.5	uA
I_{EBO}	Emitter cutoff current	V_{EB}=12V	–	–	0.5	uA
$V_{CE(sat)}$	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	VI=5V,R_L=1KΩ ,f=1KHz	–	0.9	–	Ω

Note

1.Pulse test: tp≤300uS; δ≤0.02.

RATING CHARACTERISTIC CURVES (CHDTC614TUGP)

Typical Electrical Characteristics

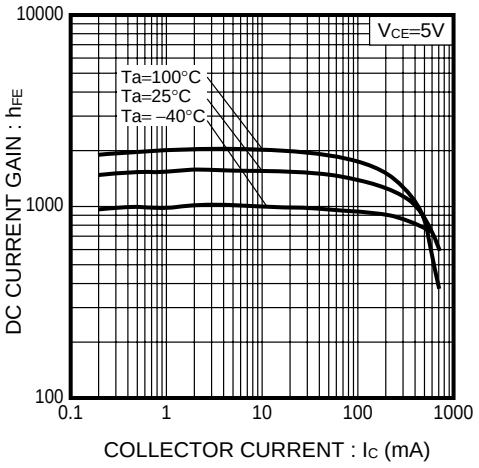


Fig.1 DC Current Gain vs. Collector Current

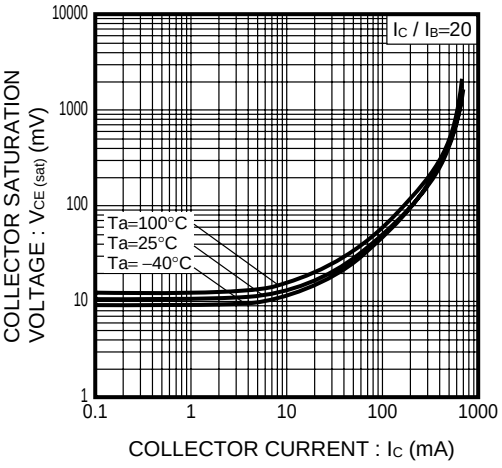


Fig.2 Collector-Emitter Saturation Voltage vs. Collector Current

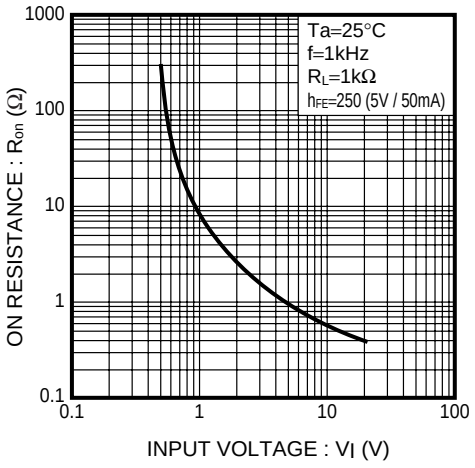


Fig.3 "ON" resistance vs. Input Voltage