



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 30 Volts CURRENT 600 mAmpere

CHDTC323TUGP

APPLICATION

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

FEATURE

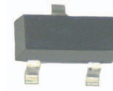
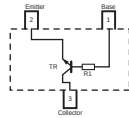
- * Small surface mounting type. (SC-70/SOT-323)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation ($V_{CE(sat)}=40mV$ at $I_C/I_B=50mA/2.5mA$).
- * High Collector current ($I_{C(Max.)}=600mA$).
- * Internal isolated NPN transistors in one package.
- * Built in single resistor ($R_1=2.2k\Omega$, Typ.)

CONSTRUCTION

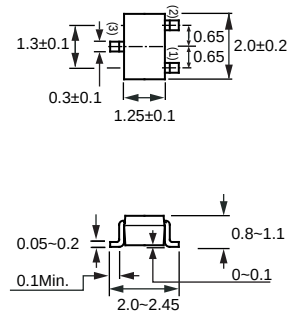
* One NPN transistors and bias of thin-film resistors in one package.

MARKING
TUG

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		30	V
V_{CEO}	Collector-Emitter voltage		15	V
V_{EBO}	Emitter-Base voltage		5	V
$I_{C(Max.)}$	Collector current		600	mA
P_D	Power dissipation	$T_{amb} \leq 25^\circ C$, Note 1	200	mW
T_{STG}	Storage temperature		-55 +150	$^\circ C$
T_J	Junction temperature		-55 +150	$^\circ C$
$R_{\theta J-S}$	Thermal resistance , Note 1	junction - soldering point	140	$^\circ C/W$

Note

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

RATING CHARACTERISTIC (CHDTC323TUGP)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV _{CBO}	Collector-base breakdown voltage	I _C =50μA	30	—	—	V
BV _{CEO}	Collector-emitter breakdown voltage	I _C =1.0mA	15	—	—	V
BV _{EBO}	Emitter-base breakdown voltage	I _E =50μA	5.0	—	—	V
I _{CBO}	Collector cutoff current	V _{CB} =20V	—	—	0.5	μA
I _{EBO}	Emitter cutoff current	V _{EB} =4V	—	—	0.5	μA
V _{CE(sat)}	Collector-emitter saturation voltage	I _C /I _B =50mA/2.5mA	—	0.04	0.08	V
h _{FE}	DC current gain	I _C =50mA; V _{CE} =5.0V	100	250	600	
R ₁	Input resistor		1.64	2.2	2.86	KΩ
f _T	Transition frequency	I _E =-50mA, V _{CE} =10.0V f=100MHz	—	200	—	MHz

Note

1.Pulse test: t_p≤300μS; δ≤0.02.

RATING CHARACTERISTIC CURVES (CHDTC323TUGP)

Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

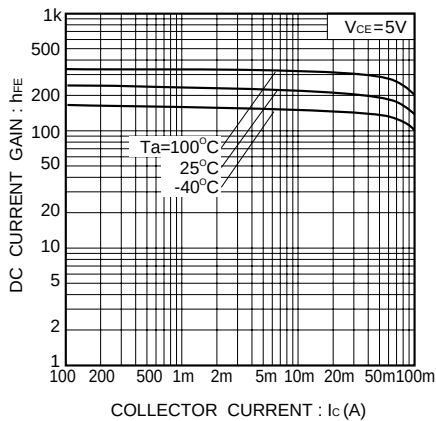


Fig.2 Collector-emitter voltage vs. collector current

