



CHENMKO ENTERPRISE CO.,LTD

CHDTC314TKPT

Lead free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 30 Volts CURRENT 600 mAmpere

APPLICATION

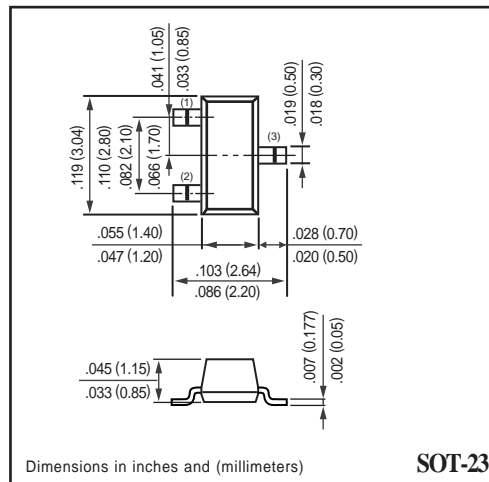
* Switching circuit, Inverter, Interface circuit, Driver circuit.

FEATURE

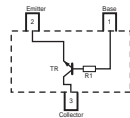
- * Small surface mounting type. (SOT-23)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation ($V_{CE(sat)}=40mV$ at $I_C/I_B=50mA/2.5mA$).
- * High Collector current ($I_{C(Max.)}=600mA$).
- * Internal isolated NPN transistors in one package.
- * Built in single resistor ($R_1=10k\Omega$, Typ.)

CONSTRUCTION

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



CIRCUIT



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} ≤ 25 °C, Note 1	200	mW
T _{STG}	Storage temperature		-55 +150	°C
T _J	Junction temperature		+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 (CHDTC314TKPT)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BVCBO	Collector-base breakdown voltage	$I_C=50\mu\text{A}$	30	–	–	V
BVCEO	Collector-emitter breakdown voltage	$I_C=1.0\text{mA}$	15	–	–	V
BVEBO	Emitter-base breakdown voltage	$I_E=50\mu\text{A}$	5.0	–	–	V
ICBO	Collector cutoff current	$V_{CB}=20\text{V}$	–	–	0.5	μA
IEBO	Emitter cutoff current	$V_{EB}=4\text{V}$	–	–	0.5	μA
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C/I_B=50\text{mA}/2.5\text{mA}$	–	0.04	0.08	V
h_{FE}	DC current gain	$I_C=50\text{mA}; V_{CE}=5.0\text{V}$	100	250	600	
R_1	Input resistor		7	10	13	$\text{K}\Omega$
f_T	Transition frequency	$I_E=-50\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$	–	200	–	MHz

Note

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

RATING CHARACTERISTIC CURVES (CHDTC314TKPT)

Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

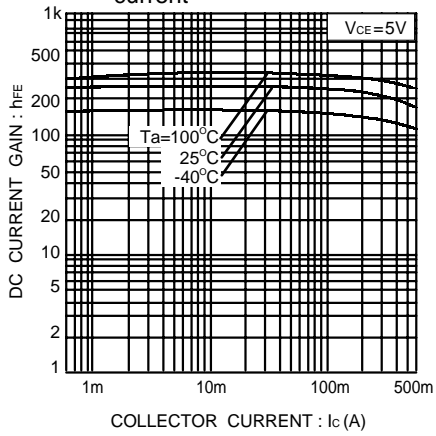


Fig.2 Collector-emitter voltage vs. collector current

