CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT
NPN Digital Silicon Transistor
VOLTAGE 50 Volts   CURRENT 100 mAmpere

Lead free devices

CHDTC125TKPT

APPLICATION

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

FEATURE

* Small surface mounting type. (SOT-23)
* High current gain.
* Suitable for high packing density.
* Low colloector-emitter saturation.
* High saturation current capability.
* Internal isolated NPN transistors in one package.
* Built in single resistor(R1=200kΩ, Typ.)

CONSTRUCTION

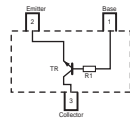* One NPN transistors and bias of thin-film resistors in one package.

CIRCUIT

SOT-23

Dimensions in inches and (millimeters)
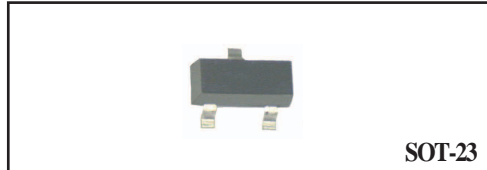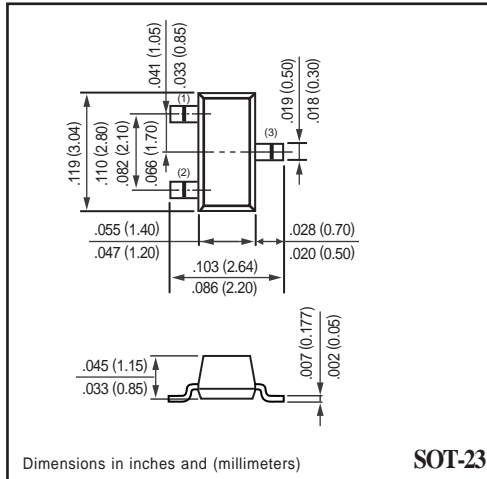
SOT-23

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-Base voltage		50	V
V_{CEO}	Collector-Emitter voltage		50	V
V_{EBO}	Emitter-Base voltage		5	V
$I_{C(Max.)}$	Collector current		100	mA
P_D	Power dissipation	$T_{amb} \leq 25\ ^{o}C$, Note 1	200	mW
T_{STG}	Storage temperature		−55 +150	^{o}C
T_J	Junction temperature		−55 +150	^{o}C
$R\theta_{J-S}$	Thermal resistance , Note 1	junction - soldering point	140	$^{o}C/W$

Note

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

2003-06

RATING CHARACTERISTIC (CHDTC125TKPT)

CHARACTERISTICS

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

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$_B$=0.5mA/0.05mA	–	–	0.3	V
h$_{FE}$	DC current gain	I$_C$=1mA; V$_{CE}$=5.0V	100	250	600	
R$_1$	Input resistor		140	200	260	KΩ
f_T	Transition frequency	I$_C$=5mA, V$_{CE}$=10.0V f=100MHz	–	250	–	MHz

Note
1.Pulse test: tp≤300uS; δ≤0.02.