



CHENMKO ENTERPRISE CO.,LTD

Halogens free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

CHDTC125TKGP

APPLICATION

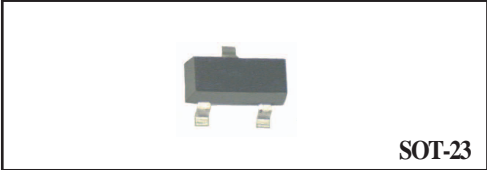
* Switching circuit, Inverter, Interface circuit, Driver circuit.

FEATURE

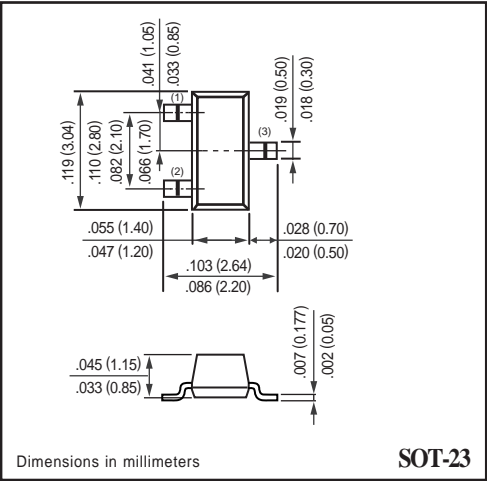
- * Small surface mounting type. (SOT-23)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Internal isolated NPN transistors in one package.
- * Built in single resistor(R1=200kΩ, Typ.)

CONSTRUCTION

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

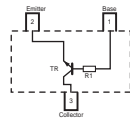


SOT-23



SOT-23

CIRCUIT



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
Vcbo	Collector-Base voltage		50	V
Vceo	Collector-Emitter voltage		50	V
Vebo	Emitter-Base voltage		5	V
Ic(Max.)	Collector current		100	mA
Pd	Power dissipation	T _{amb} ≤ 25 °C, Note 1	200	mW
Tstg	Storage temperature		-55 +150	°C
Tj	Junction temperature		-55 +150	°C
RθJ-s	Thermal resistance , Note 1	junction - soldering point	140	°C/W

Note

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

RATING CHARACTERISTIC (CHDTC125TKGP)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV _{CBO}	Collector-base breakdown voltage	I _C =50 μ A	50	–	–	V
BV _{CEO}	Collector-emitter breakdown voltage	I _C =1.0mA	50	–	–	V
BV _{EBO}	Emitter-base breakdown voltage	I _E =50 μ A	5.0	–	–	V
I _{CBO}	Collector cutoff current	V _{CB} =50V	–	–	0.5	μ A
I _{EBO}	Emitter cutoff current	V _{EB} =4V	–	–	0.5	μ A
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	K Ω
f _T	Transition frequency	I _C =5mA, V _{CE} =10.0V f=100MHz	–	250	–	MHz

Note

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