CHENMKO ENTERPRISE CO.,LTD

CHDTB123TKPT

Lead free devices

SURFACE MOUNT
PNP Digital Silicon Transistor

VOLTAGE 50 Volts CURRENT 500 mAmpere

APPLICATION

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

FEATURE

* Small surface mounting type. (SC-59/SOT-346)
* High current gain.
* Suitable for high packing density.
* Low colloector-emitter saturation.
* High saturation current capability.
* Internal isolated PNP transistors in one package.
* Built in bias resistor(R1=2.2kΩ, Typ.)

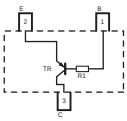
CONSTRUCTION

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

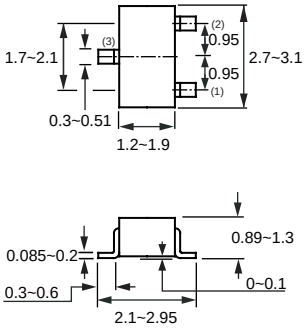
MARKING

TK8

CIRCUIT



SC-59/SOT-346



Dimensions in millimeters

SC-59/SOT-346

LIMITING VALUES

In accordance with the Absolute Maximum Rating System .

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V_{CBO}	Collector-Base voltage		-50	V
V_{CEO}	Collector-Emitter voltage		-40	V
V_{EBO}	Emitter-Base voltage		-5	V
I_C	Collector current		-500	mA
P_C	Collector 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	$^{\circ}C$
$R\theta_{J\text{-}S}$	Thermal resistance , Note 1	junction - soldering point	140	$^{\circ}C/W$

Note

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

RATING CHARACTERISTIC (CHDTB123TKPT)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV_{CBO}	Collector-Base breakdown voltage	I_C= -50uA	-50.0	–	–	V
BV_{CEO}	Collector-Emitter breakdown voltage	I_C= -1mA	-40.0	–	–	V
BV_{EBO}	Emitter-Base breakdown voltage	I_E= -50uA	-5.0	–	–	V
$V_{CE(sat)}$	Collector-Emitter Saturation voltage	I_C= -50mA; I_B= -2.5mA	–	–	-0.3	V
I_{CBO}	Collector-Base current	V_{CB}= -50V	–	–	-0.5	uA
I_{EBO}	Emitter-Base current	V_{EB}= -4V	–	–	-0.5	uA
h_{FE}	DC current gain	I_C= -50mA; V_{CE}= -5.0V	100	250	600	
R_1	Input resistor		1.54	2.2	2.86	KΩ
f_T	Transition frequency	I_E=50mA, V_{CE}= -10.0V f=100MHz	–	250	–	MHz

Note

1.Pulse test: tp≤300uS; δ ≤0.02.

RATING CHARACTERISTIC CURVES (CHDTB123TKPT)

Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

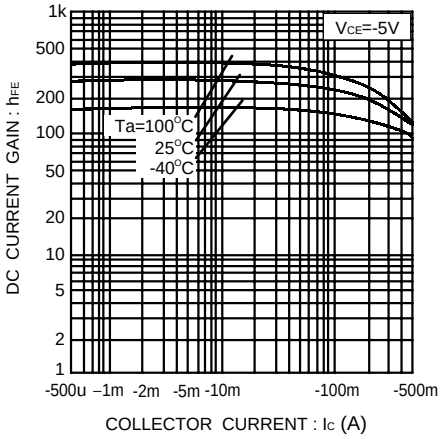


Fig.2 Collector-emitter saturation voltage vs. collector current