



CHENMKO ENTERPRISE CO.,LTD

CHDTC114GMPT

Lead free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

APPLICATION

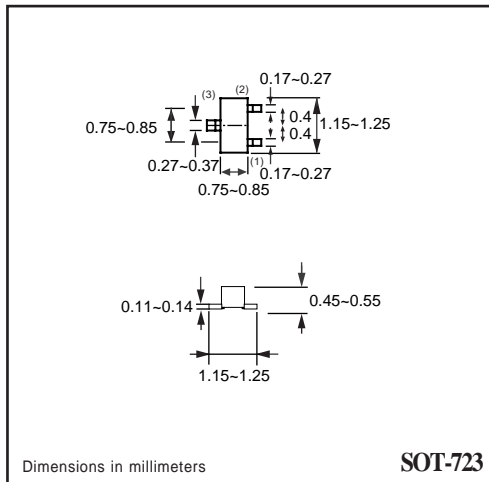
* Switching circuit, Inverter, Interface circuit, Driver circuit.

FEATURE

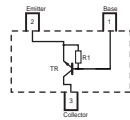
- * Small surface mounting type. (SOT-723)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Internal isolated NPN transistors in one package.
- * Built in bias resistor(R1=10kΩ, Typ.)

CONSTRUCTION

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



CIRCUIT



LIMITING VALUES

In accordance with the Absolute Maximum Rating System .

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} ≤ 25 °C, Note 1	150	mW
T _{STG}	Storage temperature		-55 +150	°C
T _J	Junction temperature		-55 +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 (CHDTC114GMPT)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BVCBO	Collector-Base breakdown voltage	$I_C=50\mu\text{A}$	50.0	–	–	V
BVCEO	Collector-Emitter breakdown voltage	$I_C=1\text{mA}$	50.0	–	–	V
BVEBO	Emitter-Base breakdown voltage	$I_E=720\mu\text{A}$	5.0	–	–	V
VCE(sat)	Collector-Emitter Saturation voltage	$I_C=10\text{mA}; I_B=0.5\text{mA}$	–	–	0.3	V
ICBO	Collector-Base current	$V_{CB}=50\text{V}$	–	–	0.5	μA
IEBO	Emitter-Base current	$V_{EB}=4\text{V}$	300	–	580	μA
hFE	DC current gain	$I_C=5\text{mA}; V_{CE}=5.0\text{V}$	30	–	–	
R1	Input resistor		7.0	10	13	$\text{K}\Omega$
fT	Transition frequency	$I_E=-5\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$	–	250	–	MHz

Note

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