CHENMKO ENTERPRISE CO.,LTD

Lead free devices

SURFACE MOUNT
NPN Digital Silicon Transistor

VOLTAGE 50 Volts CURRENT 100 mAmpere

CHDTC114WMPT

APPLICATION

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

FEATURE

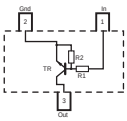
* Small surface mounting type. (SOT-723)
* High current gain.
* Suitable for high packing density.
* Low colloector-emitter saturation.
* High saturation current capability.
* Internal isolated NPN transistors in one package.
* Built in bias resistor(R1=10kΩ, Typ.)

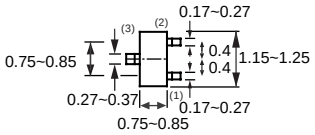
CONSTRUCTION

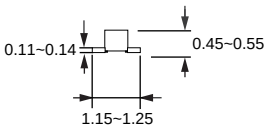
* One NPN transistors and bias of thin-film resistors in one package.

SOT-723

CIRCUIT







Dimensions in millimeters

SOT-723

LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_{CC}	Supply voltage		–	50	V
V_{IN}	Input voltage		-10	+30	V
I_O	DC Output current		–	100	mA
$I_{C(Max.)}$			–	100	
P_{TOT}	Total power dissipation	$T_{amb} \leq 25\ ^{\circ}C$, Note 1	–	150	mW
T_{STG}	Storage temperature		–55	+150	°C
T_J	Junction temperature		–	150	°C
$R\theta_{J-S}$	Thermal resistance	junction - soldering point	–	140	°C/W

Note

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

RATING CHARACTERISTIC (CHDTC114WMPT)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{I(off)}$	Input off voltage	I_O=100uA; V_{CC}=50V	0.8	–	–	V
$V_{I(on)}$	Input on voltage	I_O=2mA; V_O=0.3V	–	–	3.0	V
$V_{O(on)}$	Output voltage	I_O=10mA; I_I=0.5mA	–	0.1	0.3	V
I_I	Input current	V_I=5V	–	–	0.88	mA
$I_{C(off)}$	Output current	V_I=0V; V_{CC}=50V	–	–	0.5	uA
h_{FE}	DC current gain	I_O=-10mA; V_O=-5.0V	24	–	–	
R_1	Input resistor		7	10	13	KΩ
R_2/R_1	Resistor ratio		0.37	0.47	0.57	
f_T	Transition frequency	I_E=-5mA, V_{CE}=10.0V f=100MHz	–	250	–	MHz

Note

1.Pulse test: tp≤300uS; δ≤0.02.