



**CHENMKO ENTERPRISE CO.,LTD**

**CHDTC114WKPT**

**SURFACE MOUNT  
NPN Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

*Lead free devices*

**APPLICATION**

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

**FEATURE**

- \* Small surface mounting type. (SC-59/SOT346)
- \* 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**

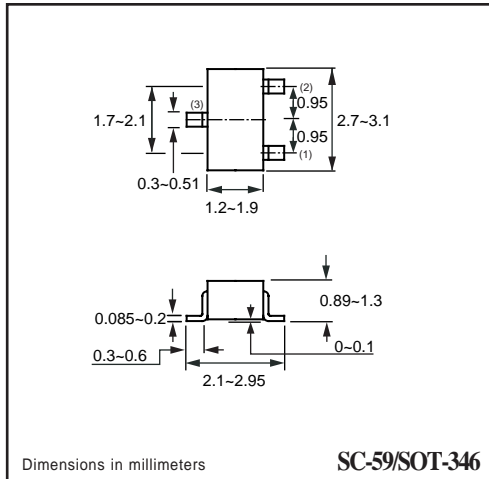
\* One NPN transistors and bias of thin-film resistors in one package.

**MARKING**

WKA



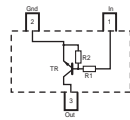
**SC-59/SOT-346**



Dimensions in millimeters

**SC-59/SOT-346**

**CIRCUIT**



**LIMITING VALUES**

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V <sub>CC</sub>	Supply voltage		-	50	V
V <sub>IN</sub>	Input voltage		-10	+30	V
I <sub>O</sub>	DC Output current		-	100	mA
I <sub>C(Max.)</sub>			-	100	
P <sub>TOT</sub>	Total power dissipation	T <sub>amb</sub> ≤ 25 °C, Note 1	-	200	mW
T <sub>STG</sub>	Storage temperature		-55	+150	°C
T <sub>J</sub>	Junction temperature		-	150	°C
R <sub>θJ-S</sub>	Thermal resistance	junction - soldering point	-	140	°C/W

**Note**

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

## RATING CHARACTERISTIC ( CHDTC114WKPT )

### CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
$V_{loff}$	Input off voltage	$I_o=100\mu\text{A}; V_{cc}=50\text{V}$	0.8	–	–	V
$V_{l(on)}$	Input on voltage	$I_o=2\text{mA}; V_o=0.3\text{V}$	–	–	3.0	V
$V_{O(on)}$	Output voltage	$I_o=10\text{mA}; I_i=0.5\text{mA}$	–	0.1	0.3	V
$I_i$	Input current	$V_i=5\text{V}$	–	–	0.88	mA
$I_{c(off)}$	Output current	$V_i=0\text{V}; V_{cc}=50\text{V}$	–	–	0.5	$\mu\text{A}$
$h_{FE}$	DC current gain	$I_o=-10\text{mA}; V_o=-5.0\text{V}$	24	–	–	
$R_1$	Input resistor		7	10	13	$\text{K}\Omega$
$R_2/R_1$	Resistor ratio		0.37	0.47	0.57	
$f_T$	Transition frequency	$I_E=-5\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$	–	250	–	MHz

### Note

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