



**CHENMKO ENTERPRISE CO.,LTD**

**CHUMH4PT**

*Lead free devices*

**SURFACE MOUNT  
Dual Digital Silicon Transistor**

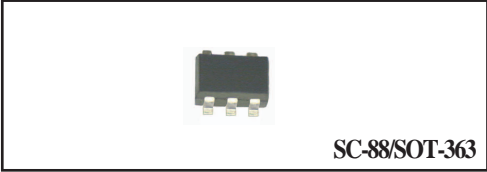
VOLTAGE 50 Volts CURRENT 100 mAmpere

**APPLICATION**

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

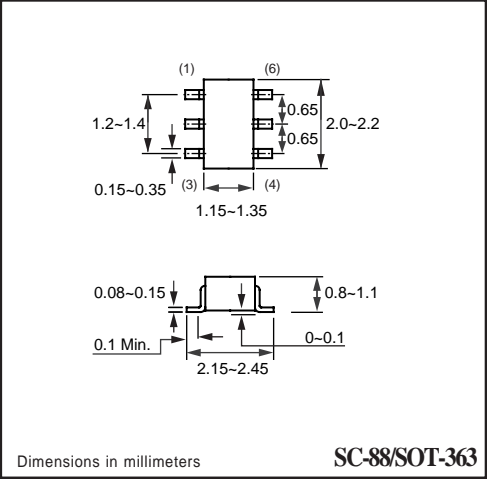
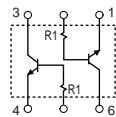
**FEATURE**

- \* Small surface mounting type. (SC-88/SOT-363)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Both the CHDTC114T in one package.
- \* Built in bias resistor(R1=10kΩ, Typ. )



SC-88/SOT-363

**CIRCUIT**



Dimensions in millimeters

SC-88/SOT-363

**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			-5	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 - Ambient Air	-	625	°C/W

**Note**

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

## RATING CHARACTERISTIC ( CHUMH4PT )

### CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV <sub>CB0</sub>	Collector-base breakdown voltage	I <sub>C</sub> =50 $\mu$ A	50	–	–	V
BV <sub>CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> =1.0mA	50	–	–	V
BV <sub>EB0</sub>	Emitter-base breakdown voltage	I <sub>E</sub> =50 $\mu$ A	5.0	–	–	V
I <sub>CB0</sub>	Collector cutoff current	V <sub>CB</sub> =50V	–	–	0.5	$\mu$ A
I <sub>EB0</sub>	Emitter cutoff current	V <sub>EB</sub> =4V	–	–	0.5	$\mu$ A
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> /I <sub>B</sub> =1mA/0.1mA	–	–	0.3	V
h <sub>FE</sub>	DC current gain	I <sub>C</sub> =1mA; V <sub>CE</sub> =5.0V	100	250	600	
R <sub>1</sub>	Input resistor		7.0	10.0	13.0	K $\Omega$
f <sub>T</sub>	Transition frequency	I <sub>E</sub> =-5mA, V <sub>CE</sub> =10.0V f=100MHz	–	250	–	MHz

### Note

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

## RATING CHARACTERISTIC CURVES ( CHUMH4PT )

### Typical Electrical Characteristics

Fig.1 Input voltage vs. output current (ON characteristics)

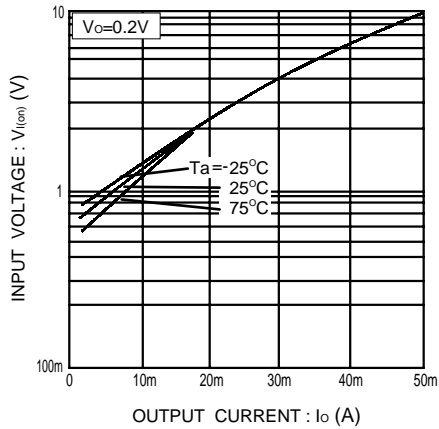


Fig.2 Output current vs. input voltage (OFF characteristics)

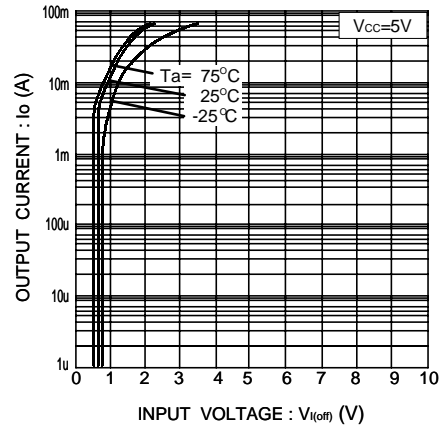


Fig.3 DC current gain vs. output current

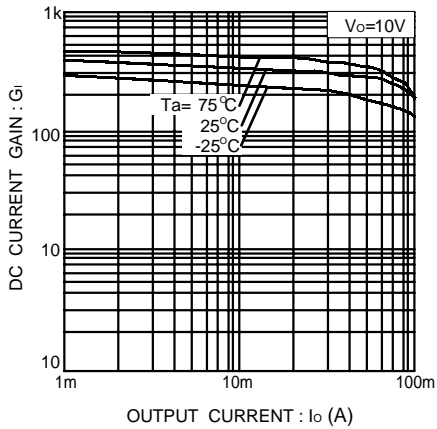


Fig.4 Output voltage vs. output current

