CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT
Dual Digital Silicon Transistor
*VOLTAGE 50 Volts   CURRENT 100 mAmpere*

CHUMA11PT

Lead free devices

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

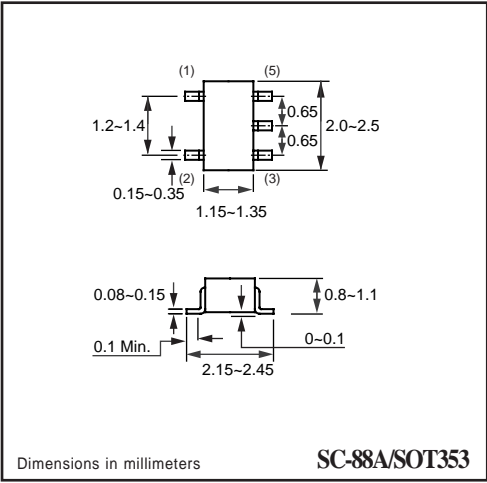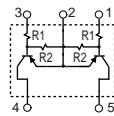### FEATURE
* Small surface mounting type. (SC-88A/SOT-353)
* High current gain.
* Suitable for high packing density.
* Low colloector-emitter saturation.
* High saturation current capability.
* Two CHDTA143Z chips in a package.
* Built in bias resistor(R1=4.7kΩ, Typ.)
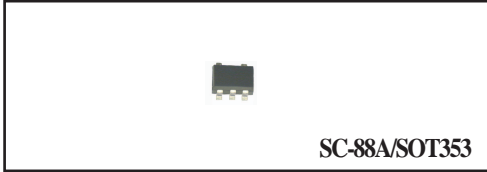
CIRCUIT

SC-88A/SOT353

Dimensions in millimeters   SC-88A/SOT353

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		-30	+5	V
I_O	DC Output current		–	-100	mA
$I_{C(Max.)}$			–	-100	
P_{TOT}	Total power dissipation	$T_{amb} \leq 25\ ^{o}C$, Note 1	–	150	mW
T_{STG}	Storage temperature		–55	+150	^{o}C
T_J	Junction temperature		–	150	^{o}C
$R_{\theta J-S}$	Thermal resistance	junction - soldering point	–	140	$^{o}C/W$

Note

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

2004-04

RATING CHARACTERISTIC (CHUMA11PT)

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}=-5.0V	-0.5	–	–	V
$V_{I(on)}$	Input on voltage	I_O=-5mA; V_O=-0.3V	–	–	-1.3	V
$V_{O(on)}$	Output voltage	I_O=-5mA; I_I=-0.25mA	–	-0.1	-0.3	V
I_I	Input current	V_I=-5V	–	–	-1.8	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	80	–	–	
R_1	Input resistor		3.29	4.7	6.11	KΩ
R_2/R_1	Resistor ratio		8	10	12	
f_T	Transition frequency	I_C=-5mA, V_{CE}=-10.0V f=100MHz	–	250	–	MHz

Note
1.Pulse test: tp≤300uS; δ≤0.02.

RATING CHARACTERISTIC CURVES (CHUMA11PT)

Typical Electrical Characteristics

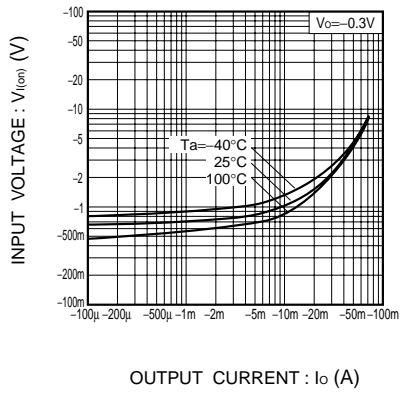Fig.1 Input voltage vs. output current
(ON characteristics)

INPUT VOLTAGE : $V_{I(on)}$ (V)

$V_O=-0.3V$

Ta=−40°C
25°C
100°C

OUTPUT CURRENT : I_O (A)

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

OUTPUT CURRENT : I_O (A)

$V_{CC}=-5V$

Ta=100°C
25°C
−40°C

INPUT VOLTAGE : $V_{I(off)}$ (V)
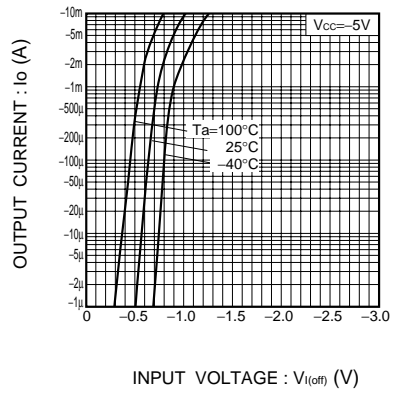
Fig.3 DC current gain vs. output
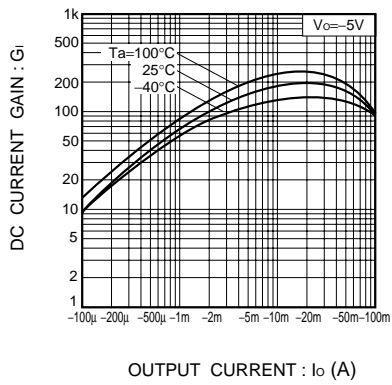current

DC CURRENT GAIN : G_I

$V_O=-5V$

Ta=100°C
25°C
−40°C

OUTPUT CURRENT : I_O (A)

Fig.4 Output voltage vs. output
current

OUTPUT VOLTAGE : $V_{O(on)}$ (V)

$I_O/I_I=20$

Ta=100°C
25°C
−40°C

OUTPUT CURRENT : I_O (A)