



**CHENMKO ENTERPRISE CO.,LTD**

Halogens free devices

**SURFACE MOUNT  
Dual Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

**CHEMD8GP**

**APPLICATION**

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

**FEATURE**

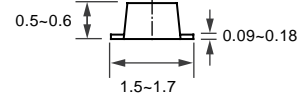
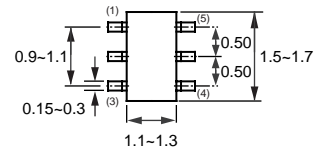
- \* Small surface mounting type. (SOT-563)
- \* High current gain.
- \* Suitable for high packing density.
- \* Low collector-emitter saturation.
- \* High saturation current capability.
- \* Both the CHDTA144T & CHDTC144T in one package.
- \* Built in bias resistor(R1=47kΩ, Typ. )

**MARKING**

\* D8



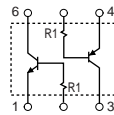
**SOT-563**



Dimensions in millimeters

**SOT-563**

**CIRCUIT**



**CHDTA144T LIMITING VALUES**

In accordance with the Absolute Maximum Rating System .

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
Vcbo	Collector-Base voltage		-50	V
Vceo	Collector-Emitter voltage		-50	V
Vebo	Emitter-Base voltage		-5	V
Ic	Collector current		-100	mA
Pc	Collector Power dissipation	T <sub>amb</sub> ≤ 25 °C, Note 1	150	mW
Tstg	Storage temperature		-55 +150	°C
Tj	Junction temperature		-55 +150	°C
RθJ-s	Thermal resistance , Note 1	junction - soldering point	140	°C/W

**Note**

2008-01

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

### CHDTC144T LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
V <sub>CBO</sub>	Collector-Base voltage		50	V
V <sub>CEO</sub>	Collector-Emitter voltage		50	V
V <sub>EBO</sub>	Emitter-Base voltage		5	V
I <sub>C(Max.)</sub>	Collector current		100	mA
P <sub>D</sub>	Power dissipation	T <sub>amb</sub> ≤ 25 °C, Note 1	150	mW
T <sub>STG</sub>	Storage temperature		-55 +150	°C
T <sub>J</sub>	Junction temperature		-55 +150	°C
R <sub>θJ-s</sub>	Thermal resistance , Note 1	junction - soldering point	140	°C/W

#### Note

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

### CHDTA144T CHARACTERISTICS

T<sub>amb</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV <sub>CBO</sub>	Collector-Base breakdown voltage	I <sub>C</sub> = -50uA	-50.0	-	-	V
BV <sub>CEO</sub>	Collector-Emitter breakdown voltage	I <sub>C</sub> = -1mA	-50.0	-	-	V
BV <sub>EBO</sub>	Emitter-Base breakdown voltage	I <sub>E</sub> = -50uA	-5.0	-	-	V
V <sub>CE(sat)</sub>	Collector-Emitter Saturation voltage	I <sub>C</sub> = -5mA; I <sub>B</sub> = -0.5mA	-	-	-0.3	V
I <sub>CBO</sub>	Collector-Base current	V <sub>CB</sub> = -50V	-	-	-0.5	uA
I <sub>EBO</sub>	Emitter-Base current	V <sub>EB</sub> = -4V	-	-	-0.5	uA
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		32.9	47	61.1	KΩ
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<sub>p</sub> ≤ 300uS; δ ≤ 0.02.

### CHDTC144T CHARACTERISTICS

T<sub>amb</sub> = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV <sub>CBO</sub>	Collector-base breakdown voltage	I <sub>C</sub> = 50uA	50	-	-	V
BV <sub>CEO</sub>	Collector-emitter breakdown voltage	I <sub>C</sub> = 1.0mA	50	-	-	V
BV <sub>EBO</sub>	Emitter-base breakdown voltage	I <sub>E</sub> = 50uA	5.0	-	-	V
I <sub>CBO</sub>	Collector cutoff current	V <sub>CB</sub> = 50V	-	-	0.5	uA
I <sub>EBO</sub>	Emitter cutoff current	V <sub>EB</sub> = 4V	-	-	0.5	uA
V <sub>CE(sat)</sub>	Collector-emitter saturation voltage	I <sub>C</sub> /I <sub>B</sub> = 5mA/0.5mA	-	-	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		32.9	47	61.1	KΩ
f <sub>T</sub>	Transition frequency	I <sub>C</sub> = 5mA, V <sub>CE</sub> = 10.0V f = 100MHz	-	250	-	MHz

#### Note

1. Pulse test: t<sub>p</sub> ≤ 300uS; δ ≤ 0.02.

## RATING CHARACTERISTIC CURVES ( CHEMD8GP )

### CHDTA144T Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

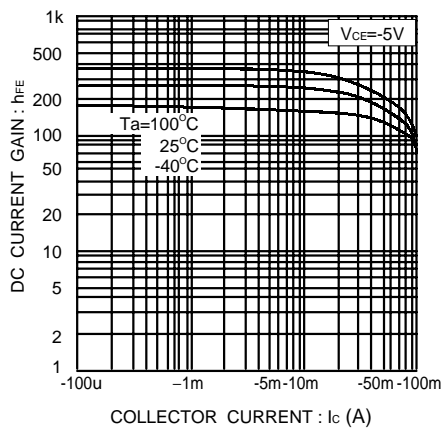
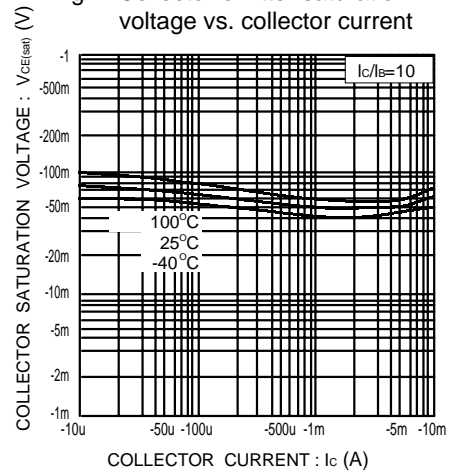


Fig.2 Collector-emitter saturation voltage vs. collector current



## RATING CHARACTERISTIC CURVES ( CHEMD8GP )

### CHDTC144T Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

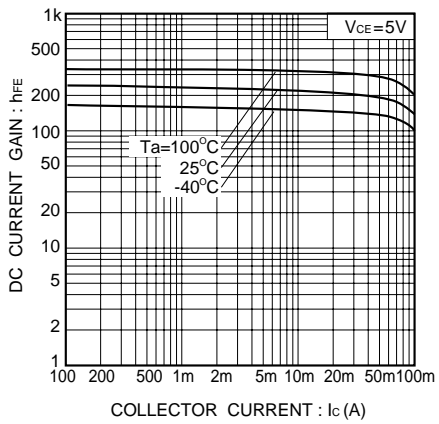


Fig.2 Collector-emitter voltage vs. collector current

