



CHENMKO ENTERPRISE CO.,LTD

SURFACE MOUNT

CHUMD47PT

Dual Digital Silicon Transistor

VOLTAGE 50 Volts CURRENT 100 mAmpere

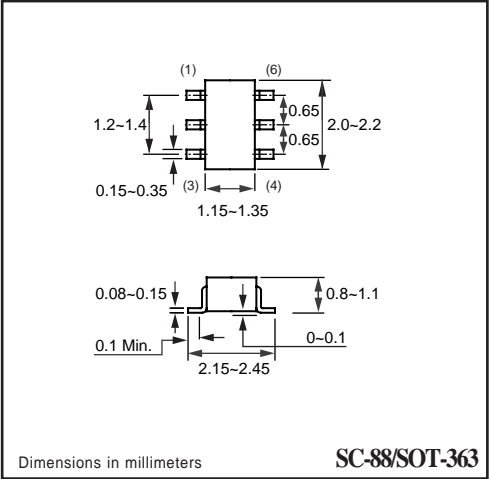
Lead free devices

APPLICATION

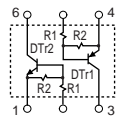
* Switching circuit, Inverter, Interface circuit, Driver circuit.

FEATURE

- * Small surface mounting type. (SC-88/SOT-363)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Both the CHDTA143E & CHDTC143E in one package.



CIRCUIT



CHDTA143E 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	+10	V
I _o	DC Output current		-	-100	mA
I _{C(Max.)}			-	-100	
P _{TOT}	Total power dissipation	T _{amb} ≤ 25 °C, Note 1	-	150	mW
T _{STG}	Storage temperature		-55	+150	°C
T _J	Junction temperature		-	150	°C
R _{θJ-S}	Thermal resistance	junction - soldering point	-	140	°C/W

Note

2006-07

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

CHDTC143E LIMITING VALUES

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

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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} ≤ 25 °C, Note 1	–	150	mW
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T _J	Junction temperature		–	150	°C
R _{θJ-S}	Thermal resistance	junction - soldering point	–	140	°C/W

Note

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

CHDTA143E CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _{I(off)}	Input off voltage	I _O =-100µA; V _{CC} =-5.0V	-0.5	–	–	V
V _{I(on)}	Input on voltage	I _O =-20mA; 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	–	–	-1.8	mA
I _{C(off)}	Output current	V _I =0V; V _{CC} =-50V	–	–	-0.5	µA
h _{FE}	DC current gain	I _O =-10mA; V _O =-5.0V	20	–	–	
R ₁	Input resistor		3.29	4.7	6.11	KΩ
R _{2/R₁}	Resistor ratio		0.8	1.0	1.2	
f _T	Transition frequency	I _C =-5mA, V _{CE} =-10.0V f=100MHz	–	250	–	MHz

Note

1. Pulse test: t_p≤300µS; δ≤0.02.

CHDTC143E CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V _{I(off)}	Input off voltage	I _O =100µA; V _{CC} =5.0V	0.5	–	–	V
V _{I(on)}	Input on voltage	I _O =20mA; 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	–	–	1.8	mA
I _{C(off)}	Output current	V _I =0V; V _{CC} =50V	–	–	0.5	µA
h _{FE}	DC current gain	I _O =10mA; V _O =5.0V	30	–	–	
R ₁	Input resistor		3.29	4.7	6.11	KΩ
R _{2/R₁}	Resistor ratio		0.8	1.0	1.2	
f _T	Transition frequency	I _C =5mA, V _{CE} =10.0V f=100MHz	–	250	–	MHz

Note

1. Pulse test: t_p≤300µS; δ≤0.02.

RATING CHARACTERISTIC CURVES (CHUMD47PT)

CHDTA143E Typical Electrical Characteristics

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

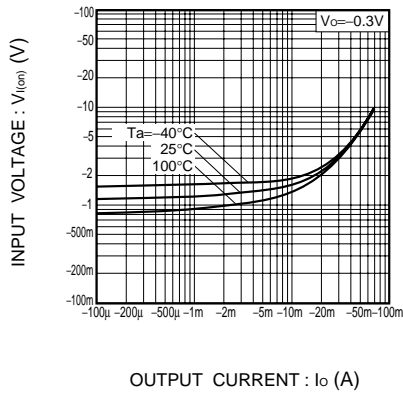


Fig.2 Output current vs. input voltage (OFF characteristics)

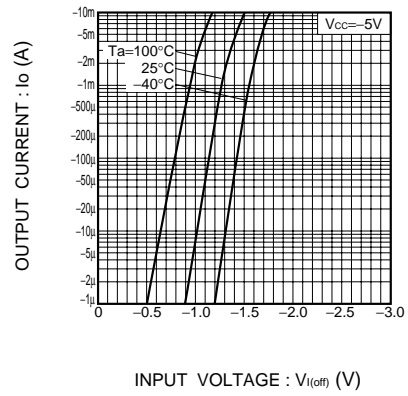


Fig.3 DC current gain vs. output current

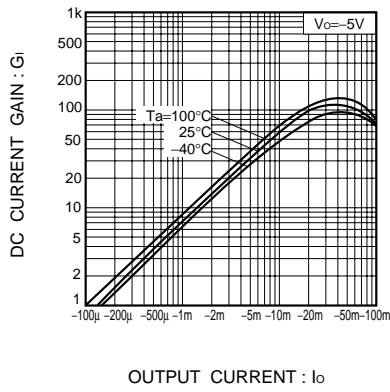
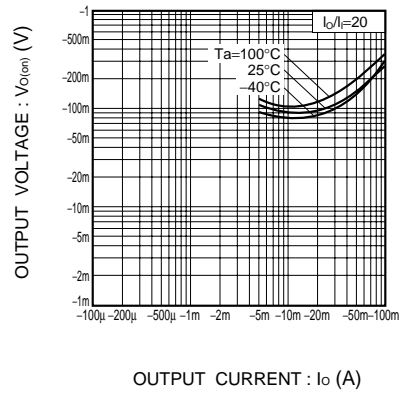


Fig.4 Output voltage vs. output current



RATING CHARACTERISTIC CURVES (CHUMD47PT)

CHDTC143E Typical Electrical Characteristics

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

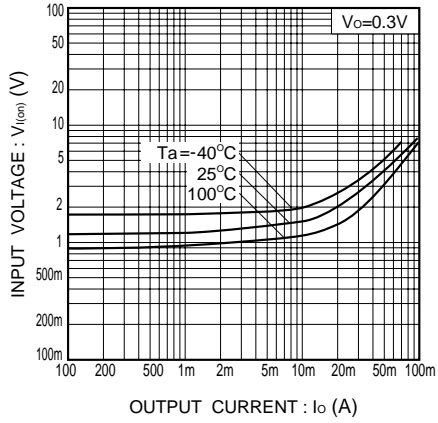


Fig.2 Output current vs. input voltage (OFF characteristics)

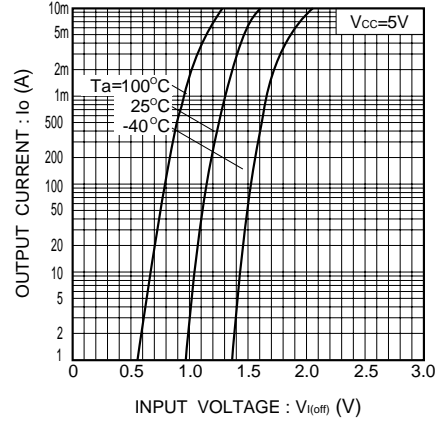


Fig.3 DC current gain vs. output current

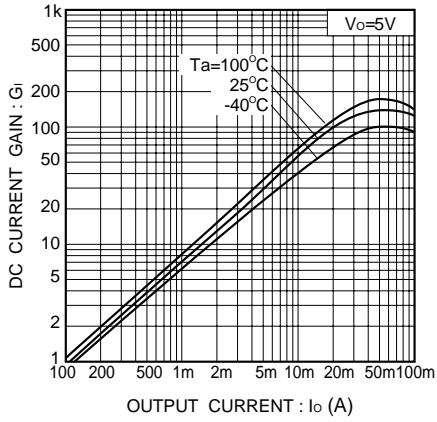


Fig.4 Output voltage vs. output current

