



CHENMKO ENTERPRISE CO.,LTD

CHDTC143TEPT

Lead free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

VOLTAGE 50 Volts CURRENT 100 mAmpere

APPLICATION

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

FEATURE

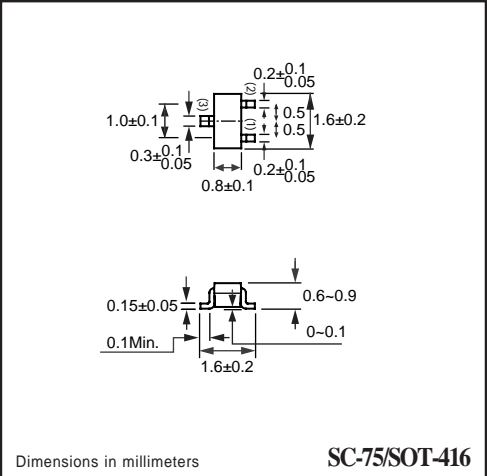
- * Small surface mounting type. (SC-75/SOT-416)
- * High current gain.
- * Suitable for high packing density.
- * Low collector-emitter saturation.
- * High saturation current capability.
- * Internal isolated NPN transistors in one package.
- * Built in single resistor(R1=4.7kΩ, Typ.)

CONSTRUCTION

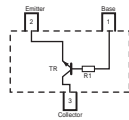
* One NPN transistors and bias of thin-film resistors in one package.

MARKING

TEA



CIRCUIT



LIMITING VALUES

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

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

Note

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

RATING CHARACTERISTIC (CHDTC143TEPT)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BV _{CB0}	Collector-base breakdown voltage	I _C =50 μ A	50	–	–	V
BV _{CEO}	Collector-emitter breakdown voltage	I _C =1.0mA	50	–	–	V
BV _{EB0}	Emitter-base breakdown voltage	I _E =50 μ A	5.0	–	–	V
I _{CB0}	Collector cutoff current	V _{CB} =50V	–	–	0.5	μ A
I _{EB0}	Emitter cutoff current	V _{EB} =4V	–	–	0.5	μ A
V _{CE(sat)}	Collector-emitter saturation voltage	I _C /I _B =5mA/0.25mA	–	–	0.3	V
h _{FE}	DC current gain	I _C =1mA; V _{CE} =5.0V	100	250	600	
R ₁	Input resistor		3.29	4.7	6.11	K Ω
f _T	Transition frequency	I _C =5mA, V _{CE} =10.0V f=100MHz	–	250	–	MHz

Note

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

RATING CHARACTERISTIC CURVES (CHDTC143TEPT)

Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

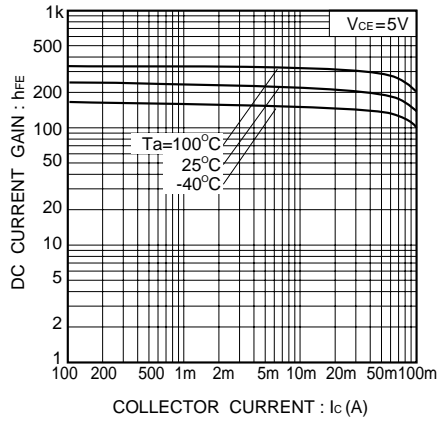


Fig.2 Collector-emitter voltage vs. collector current

