



CHENMKO ENTERPRISE CO.,LTD

CHDTC143TUPT

Lead free devices

**SURFACE MOUNT
NPN Digital Silicon Transistor**

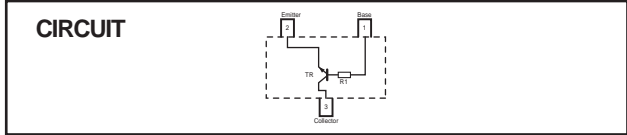
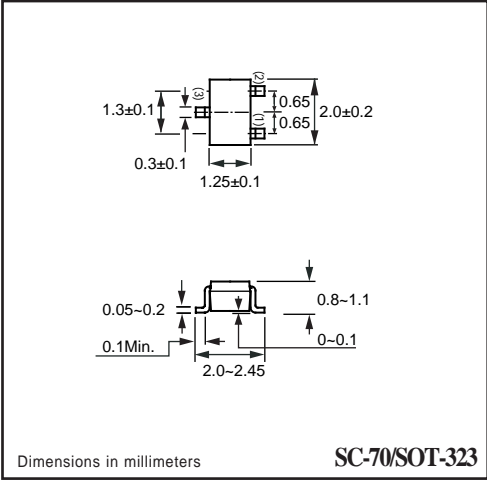
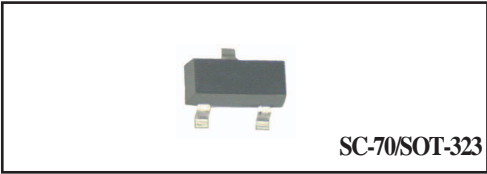
VOLTAGE 50 Volts CURRENT 100 mAmpere

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

FEATURE
* Small surface mounting type. (SC-70/SOT-323)
* 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
TUA



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
Vcbo	Collector-Base voltage		50	V
Vceo	Collector-Emitter voltage		50	V
Vebo	Emitter-Base voltage		5	V
Ic(Max.)	Collector current		100	mA
Pd	Power dissipation	T _{amb} ≤ 25 °C, Note 1	200	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

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

RATING CHARACTERISTIC (CHDTC143TUPT)

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
BVCBO	Collector-base breakdown voltage	$I_C=50\mu\text{A}$	50	–	–	V
BVCEO	Collector-emitter breakdown voltage	$I_C=1.0\text{mA}$	50	–	–	V
BVEBO	Emitter-base breakdown voltage	$I_E=50\mu\text{A}$	5.0	–	–	V
ICBO	Collector cutoff current	$V_{CB}=50\text{V}$	–	–	0.5	μA
IEBO	Emitter cutoff current	$V_{EB}=4\text{V}$	–	–	0.5	μA
$V_{CE(sat)}$	Collector-emitter saturation voltage	$I_C/I_B=5\text{mA}/0.25\text{mA}$	–	–	0.3	V
h_{FE}	DC current gain	$I_C=1\text{mA}; V_{CE}=5.0\text{V}$	100	250	600	
R_1	Input resistor		3.29	4.7	6.11	$\text{K}\Omega$
f_T	Transition frequency	$I_C=5\text{mA}, V_{CE}=10.0\text{V}$ $f=100\text{MHz}$	–	250	–	MHz

Note

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

RATING CHARACTERISTIC CURVES (CHDTC143TUPT)

Typical Electrical Characteristics

Fig.1 DC current gain vs. collector current

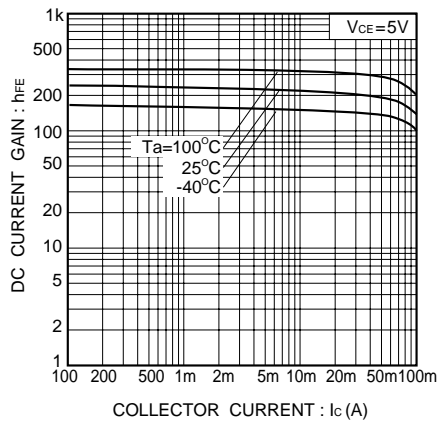


Fig.2 Collector-emitter voltage vs. collector current

