



JIANGSU CHANGJIANG ELECTRONICS TECHNOLOGY CO., LTD

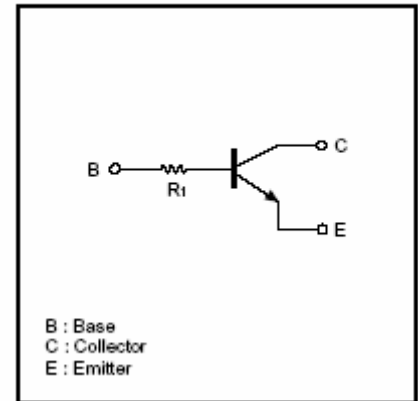
Digital transistors (built-in resistors)

DTC114TE/DTC114TUA

DTC114TKA/DTC114TCA /DTC114TSA

DIGITAL TRANSISTOR (NPN)

●Equivalent circuit

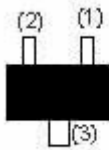


FEATURES

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- The bias resistors consist of thin-film resistors with complete isolation to without connecting external input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, marking device design easy.

PIN CONNECTIONS AND MARKING

DTC114TE



- (1) Base
(2) Emitter
(3) Collector

SOT-523

Abbreviated symbol: 04

DTC114TUA



- (1) Base
(2) Emitter
(3) Collector

SOT-323

Abbreviated symbol: 04

DTC114TKA



- (1) Base
(2) Emitter
(3) Collector

SOT-23-3L

Abbreviated symbol: 04

DTC114TCA

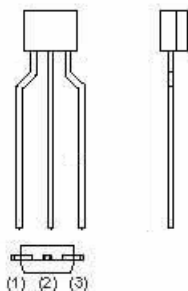


- (1) Base
(2) Emitter
(3) Collector

SOT-23

Abbreviated symbol: 04

DTC114TSA



- (1) Emitter
(2) Collector
(3) Base

TO-92S

MAXIMUM RATINGS* $T_A=25^{\circ}\text{C}$ unless otherwise noted

Symbol	Parameter	LIMITS(DTC114T□)					Units
		E	UA	KA	CA	SA	
V _{CBO}	Collector-Base Voltage	50					V
V _{CEO}	Collector-Emitter Voltage	50					V
V _{EBO}	Emitter-Base Voltage	5					V
I _C	Collector Current -Continuous	100					mA
P _C	Collector Dissipation	150	200			300	mW
T _j	Junction temperature	150					°C
T _J , T _{stg}	Junction and Storage Temperature	-55~+150					°C

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=50\mu\text{A}, I_E=0$	50			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}, I_B=0$	50			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=50\mu\text{A}, I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$			0.5	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=4\text{V}, I_C=0$			0.5	μA
DC current gain	h_{FE}	$V_{CE}=5\text{V}, I_C=1\text{mA}$	100	300	600	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=10\text{mA}, I_B=1\text{mA}$			0.3	V
Transition frequency	f_T	$V_{CE}=10\text{V}, I_E=-5\text{mA}, f=100\text{MHz}$		250		MHz
Input resistor	R1		7	10	13	$k\Omega$

Typical Characteristics

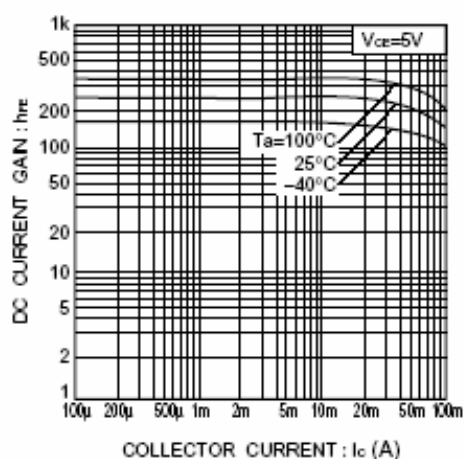


Fig.1 DC current gain vs. collector current

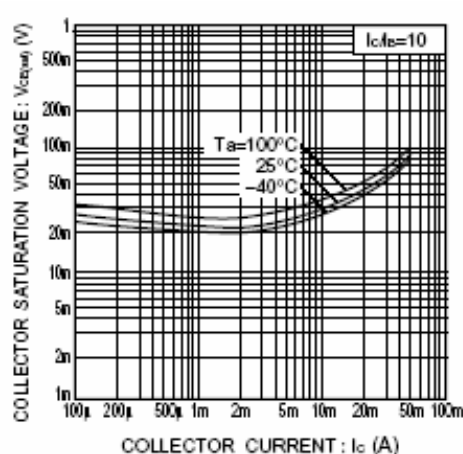


Fig.2 Collector-emitter saturation voltage vs. collector current