

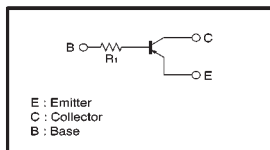
Digital transistor (built in resistor)

DTA113TKA

●Features

- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input, and parasitic effects are almost completely eliminated.
- 3) Only the on / off conditions need to be set for operation, making device design easy.
- 4) Higher mounting densities can be achieved.

●Circuit schematic



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	-50	V
Collector-emitter voltage	V_{CE0}	-50	V
Emitter-base voltage	V_{EB0}	-5~+10	V
Collector current	I_C	-100	mA
Collector Power dissipation	P_C	200	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~+150	°C

●Package, marking, and packaging specifications

Part No.	DTA113TKA
Package	SMT3
Marking	91
Packaging code	T146
Basic ordering unit (pieces)	3000

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	-50	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	-50	—	—	V	$I_C = -1 mA$
Emitter-base breakdown voltage	BV_{EBO}	-5	—	—	V	$I_E = -50 \mu A$
Collector cutoff current	I_{CBO}	—	—	-0.5	μA	$V_{CB} = -50 V$
Emitter cutoff current	I_{EBO}	—	—	-0.5	μA	$V_{EB} = -4 V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.3	V	$I_C/I_E = -10 mA / -1 mA$
DC current transfer ratio	h_{FE}	100	250	600	—	$I_C = -1 mA, V_{CE} = -5 V$
Input resistance	R_1	0.7	1	1.3	k Ω	—
Transition frequency	f_T	—	250	—	MHz	$V_{CB} = -10 V, I_E = 5 mA, f = 100 MHz$

* Transition frequency of the device.

(SPEC-A113T)

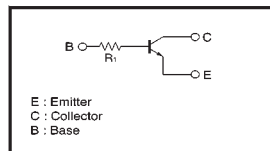
Digital transistor (built-in resistor)

DTC123TKA

●Features

- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input, and parasitic effects are almost completely eliminated.
- 3) Only the on / off conditions need to be set for operation, making device design easy.
- 4) Higher mounting densities can be achieved.

●Circuit schematic



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CE0}	50	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_C	100	mA
Collector Power dissipation	P_C	200	mW
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~+150	°C

●Package, marking, and packaging specifications

Part No.	DTC123TKA
Package	SMT3
Marking	02
Packaging code	T146
Basic ordering unit (pieces)	3000

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	$I_C = 50 \mu A$
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	$I_C = 1 mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E = 50 \mu A$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB} = 50 V$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB} = 4 V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C/I_E = 5 mA / 0.25 mA$
DC current transfer ratio	h_{FE}	100	250	600	—	$I_C = 1 mA, V_{CE} = 5 V$
Input resistance	R_1	1.54	2.2	2.86	k Ω	—
Transition frequency	f_T	—	250	—	MHz	$V_{CB} = 10 V, I_E = -5 mA, f = 100 MHz$

* Transition frequency of the device.

(SPEC-C123T)

This datasheet has been download from:

www.datasheetcatalog.com

Datasheets for electronics components.