

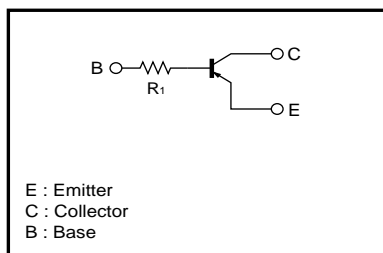
# Digital transistors (built-in resistor)

## DTA115TH / DTA115TE / DTA115TUA / DTA115TKA / DTA115TSA

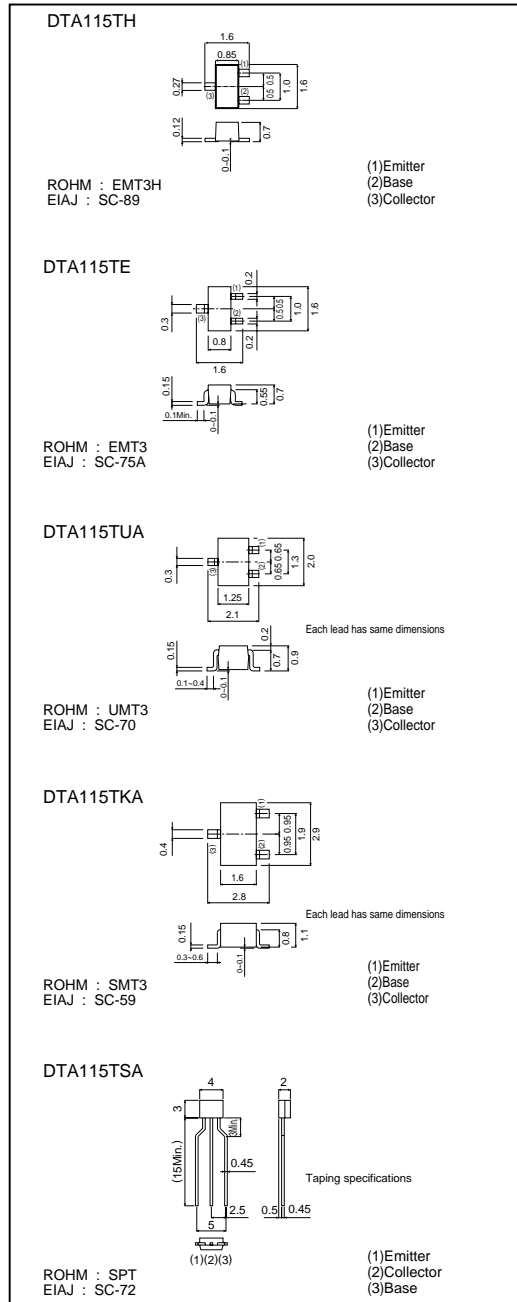
### ●Features

- 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



### ●External dimensions (Units : mm)



# DTA115TH / DTA115TE / DTA115TUA / DTA115TKA / DTA115TSA

## Transistors

### ●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CB0</sub>	-50	V
Collector-emitter voltage	V <sub>CE0</sub>	-50	V
Emitter-base voltage	V <sub>EB0</sub>	-5	V
Collector current	I <sub>c</sub>	-100	mA
Collector power dissipation	DTA115TH / DTA115TE	150	mW
	DTA115TUA / DTA115TKA	200	
	DTA115TSA	300	
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 ~ +150	°C

### ●Package, marking, and packaging specifications

Part No.	DTA115TH	DTA115TE	DTA115TUA	DTA115TKA	DTA115TSA
Package	EMT3H	EMT3	UMT3	SMT3	SPT
Marking	99	99	99	99	-
Packaging code	T2L	TL	T106	T146	TP
Basic ordering unit (pieces)	8000	3000	3000	3000	5000

### ●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CB0</sub>	-50	-	-	V	I <sub>c</sub> =-50μA
Collector-emitter breakdown voltage	BV <sub>CE0</sub>	-50	-	-	V	I <sub>c</sub> =-1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	-5	-	-	V	I <sub>E</sub> =-50μA
Collector cutoff current	I <sub>cBO</sub>	-	-	-0.5	μA	V <sub>CB</sub> =-50V
Emitter cutoff current	I <sub>EBO</sub>	-	-	-0.5	μA	V <sub>EB</sub> =-4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-	-0.3	V	I <sub>c</sub> /I <sub>B</sub> =-1mA/-0.1mA
DC current transfer ratio	h <sub>FE</sub>	100	250	600	-	I <sub>c</sub> =-1mA, V <sub>CE</sub> =-5V
Input resistance	R <sub>i</sub>	70	100	130	kΩ	-
Transition frequency	f <sub>T</sub>	-	250	-	MHz	V <sub>CE</sub> =-10V, I <sub>E</sub> =5mA, f=100MHz *

\*Transition frequency of the device.