

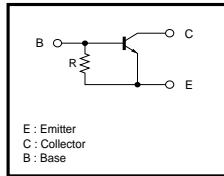
# Digital transistors (built-in resistor)

## DTA115GUA / DTA115GKA / DTA115GSA

### ●Features

- 1) The built-in bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input, and parasitic effects are almost completely eliminated.
- 2) Only the on / off conditions need to be set for operation, making device design easy.
- 3) Higher mounting densities can be achieved.

### ●Equivalent circuit



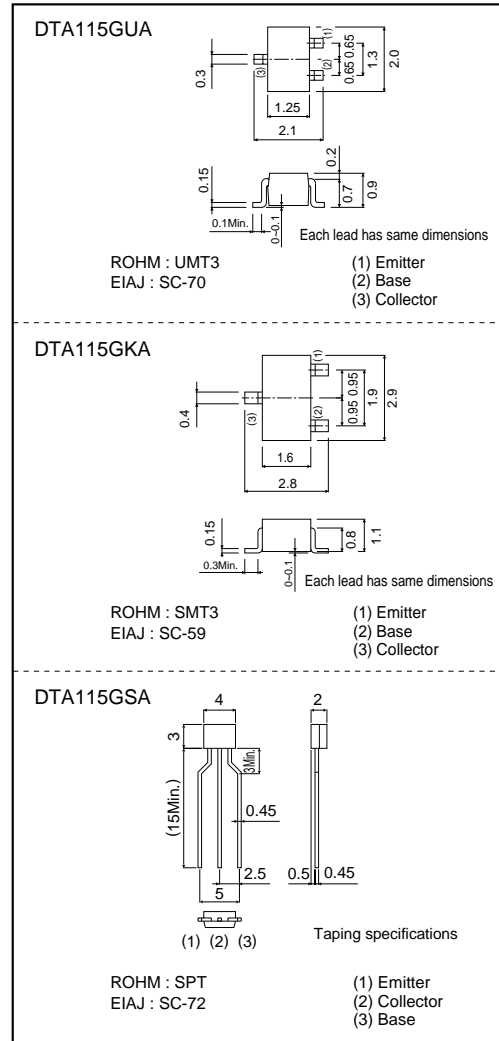
### ●Absolute maximum ratings (Ta=25°C)

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	P <sub>c</sub>	200	mW
		300	mW
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55→+150	°C

### ●Package, marking, and packaging specifications

Type	DTA115GUA	DTA115GKA	DTA115GSA
Package	UMT3	SMT3	SPT
Marking	K19	K19	-
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

### ●External dimensions (Units : mm)



### ●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> =-72μA
Collector cutoff current	I <sub>cbo</sub>	-	-	-0.5	μA	V <sub>CB</sub> =-50V
Emitter cutoff current	I <sub>ebo</sub>	-30	-	-58	μA	V <sub>EB</sub> =-4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-	-0.3	V	I <sub>c</sub> =-5mA, I <sub>E</sub> =-0.25mA
DC current transfer ratio	h <sub>FE</sub>	82	-	-	-	I <sub>c</sub> =-5mA, V <sub>CE</sub> =-5V
Emitter-base resistance	R	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.