

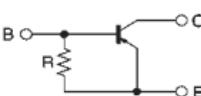
# Digital transistors (built-in resistor)

## DTA115GUA / DTA115GKA

### ●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.

### ●Circuit schematic



E : Emitter  
C : Collector  
B : Base

### ●Absolute maximum ratings ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Limits	Unit
Collector-base voltage	$V_{CBO}$	-50	V
Collector-emitter voltage	$V_{CEO}$	-50	V
Emitter-base voltage	$V_{EBO}$	-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.	DTA115GUA	DTA115GKA
Package	UMT3	SMT3
Marking	K19	K19
Packaging code	T106	T146
Basic ordering unit (pieces)	3000	3000

### ●Electrical characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-50	—	—	V	$I_C = -50 \mu\text{A}$
Collector-emitter breakdown voltage	$BV_{CEO}$	-50	—	—	V	$I_C = -1\text{mA}$
Emitter-base breakdown voltage	$BV_{EBO}$	-5	—	—	V	$I_E = -72 \mu\text{A}$
Collector cutoff current	$I_{CBO}$	—	—	-0.5	$\mu\text{A}$	$V_{CB} = -50\text{V}$
Emitter cutoff current	$I_{EBO}$	-30	—	-58	$\mu\text{A}$	$V_{EB} = -4\text{V}$
Collector-emitter saturation voltage	$V_{CE(\text{sat})}$	—	—	-0.3	V	$I_C = -5\text{mA}, I_E = -0.25\text{mA}$
DC current transfer ratio	$h_{FE}$	82	—	—	—	$I_C = -5\text{mA}, V_{CE} = -5\text{V}$
Emitter-base resistance	$R$	70	100	130	$\text{k}\Omega$	—
Transition frequency	$f_T$	—	250	—	MHz	$V_{CE} = -10\text{V}, I_E = 5\text{mA}, f = 100\text{MHz}$ *