

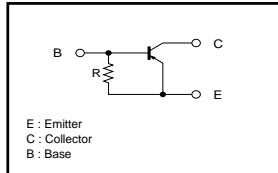
Digital transistors (built-in resistor)

DTC114GUA / DTC114GKA / DTC114GSA

●Features

- 1) The built-in bias resistors consist of thin-film resistors with complete isolation to allow negative 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



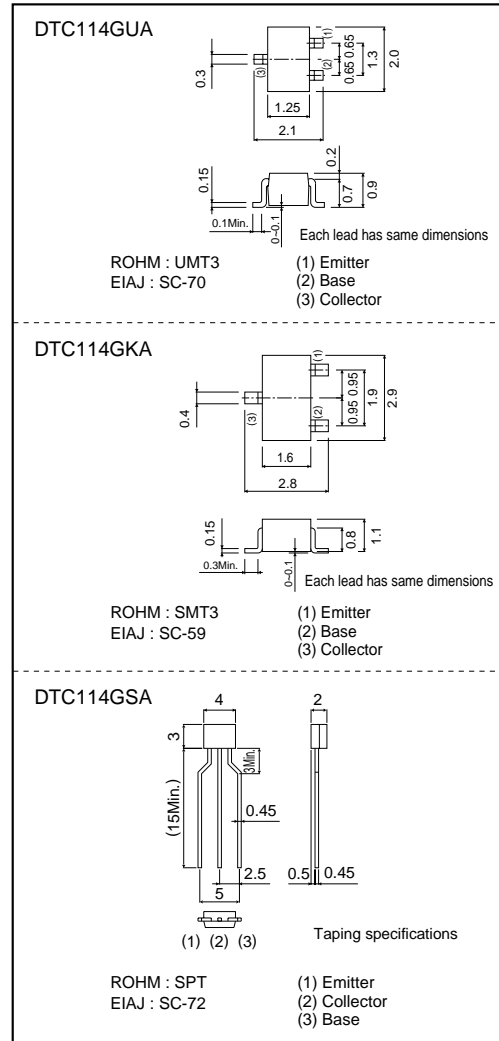
●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{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	DTC114GUA / DTC114GKA	200
		DTC114GSA	300
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55→150	°C

●Package, marking, and packaging specifications

Type	DTC114GUA	DTC114GKA	DTC114GSA
Package	UMT3	SMT3	SPT
Marking	K24	K24	-
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	V _{CB0}	50	-	-	V	I _c =50μA
Collector-emitter breakdown voltage	V _{CE0}	50	-	-	V	I _c =1mA
Emitter-base breakdown voltage	V _{EB0}	5	-	-	V	I _E =720μA
Collector cutoff current	I _{cbo}	-	-	0.5	μA	V _{CB} =50V
Emitter cutoff current	I _{EBO}	300	-	580	μA	V _{EB} =4V
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.3	V	I _c =10mA, I _E =0.5mA
DC current transfer ratio	h _{FE}	30	-	-	-	I _c =5mA, V _{CE} =5V
Emitter-base resistance	R	7	10	13	kΩ	-
Transition frequency	f _T	-	250	-	MHz	V _{CE} =10V, I _E =-5mA, f=100MHz

* Transition frequency of the device.