

DTC114GUA / DTC114GKA / DTC114GSA

Transistors

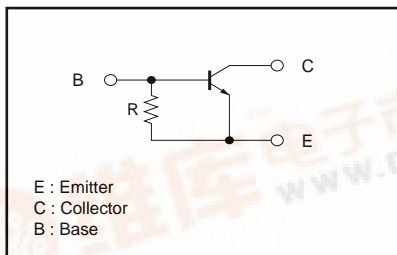
Digital transistors (built-in resistor)

DTC114GUA / DTC114GKA / DTC114GSA

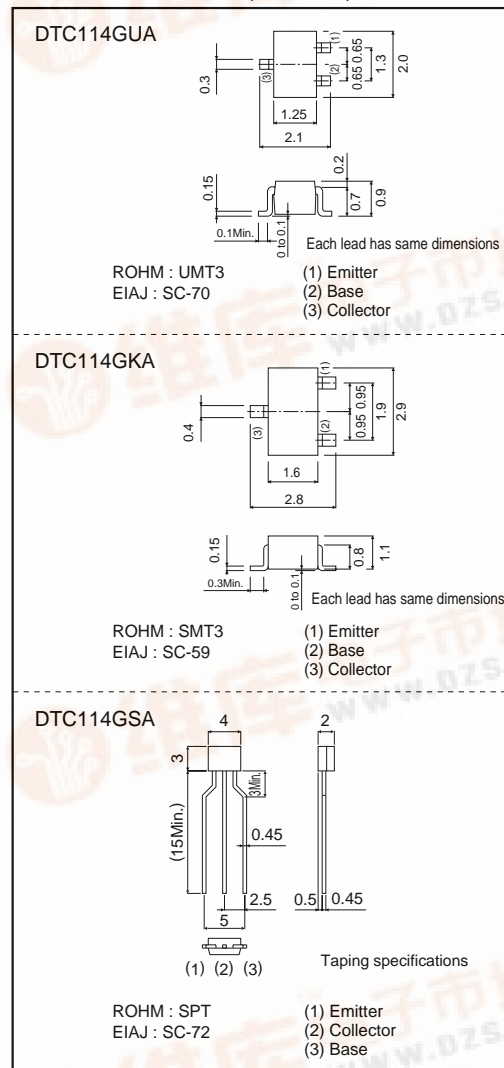
●Features

- 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



●External dimensions (Unit : mm)



●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	DTC114GUA / DTC114GKA	200	mW
	DTC114GSA	300	
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

# DTC114GUA / DTC114GKA / DTC114GSA

## Transistors

### ●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

### ●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	$I_C=1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	5	–	–	V	$I_E=720\mu A$
Collector cutoff current	$I_{CBO}$	–	–	0.5	$\mu A$	$V_{CB}=50V$
Emitter cutoff current	$I_{EBO}$	300	–	580	$\mu A$	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	–	–	0.3	V	$I_C=10mA, I_B=0.5mA$
DC current transfer ratio	$h_{FE}$	30	–	–	–	$I_C=5mA, V_{CE}=5V$
Emitter-base resistance	R	7	10	13	$k\Omega$	–
Transition frequency	$f_T$	–	250	–	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$ *

\*Transition frequency of the device.

### ●Electrical characteristic curves

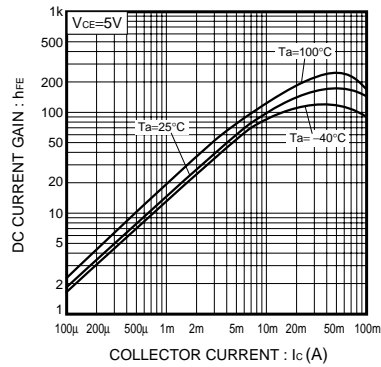


Fig.1 DC current gain vs. Collector current

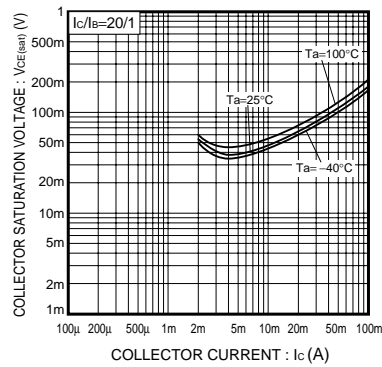


Fig.2 Collector-Emitter saturation voltage vs. Collector current

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