

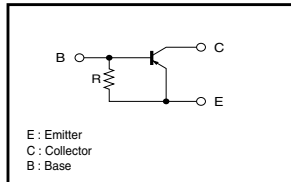
Digital transistors (built-in resistor)

DTA114GUA / DTA114GKA / DTA114GSA

●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



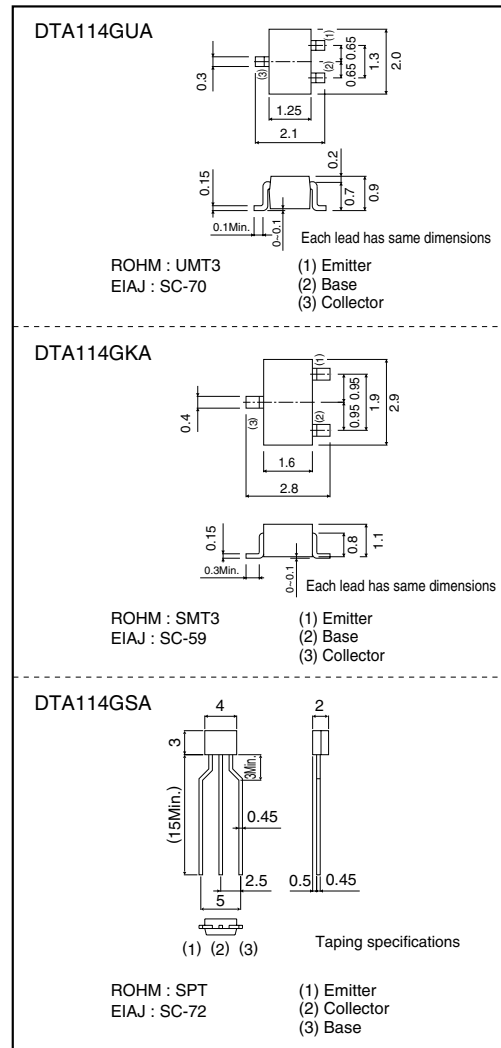
●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V_{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	Pc	DTA114GUA / DTA114GKA	200	mW
		DTA114GSA	300	
Junction temperature	T_j	150	°C	
Storage temperature	T_{stg}	-55 to +150	°C	

●Package, marking, and packaging specifications

Type	DTA114GUA	DTA114GKA	DTA114GSA
Package	UMT3	SMT3	SPT
Marking	K14	K14	-
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

●External dimensions (Unit: mm)



DTA114GUA / DTA114GKA / DTA114GSA

Transistors

●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	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	$I_C = -10mA, I_B = -0.5mA$
DC current transfer ratio	h_{FE}	30	-	-	-	$I_C = -5mA, V_{CE} = -5V$
Emitter-base resistance	R_1	7	10	13	$k\Omega$	-
Transition frequency	f_r	-	250	-	MHz	$V_{CE} = -10V, I_E = 50mA, f = 100MHz$ *

*Transition frequency of the device.

●Electrical characteristics curves

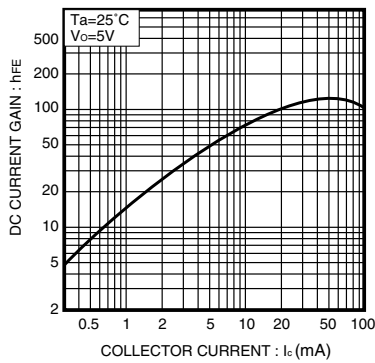


Fig.1 DC Current gain vs. Collector Current

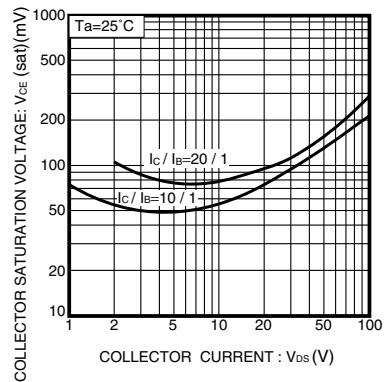


Fig.2 Collector-emitter saturation voltage vs. Collector Current

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