

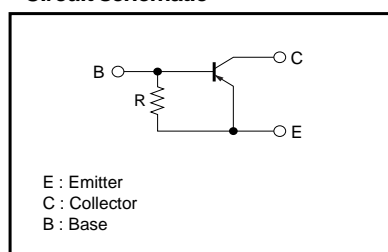
Digital transistors (built-in resistor)

DTA144GUA / DTA144GKA

●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



●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	200	mW
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

●Package, marking, and packaging specifications

Part No.	DTA144GUA	DTA144GKA
Package	UMT3	SMT3
Marking	K16	K16
Packaging code	T106	T146
Basic ordering unit (pieces)	3000	3000

Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CB0}	-50	-	-	V	I _C = -50μA
Collector-emitter breakdown voltage	BV _{CEO}	-50	-	-	V	I _C = -1mA
Emitter-base breakdown voltage	BV _{EBO}	-5	-	-	V	I _E = -160μA
Collector cutoff current	I _{CB0}	-	-	-0.5	μA	V _{CB} = -50V
Emitter cutoff current	I _{EBO}	-65	-	-130	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}	68	-	-	-	I _C = -5mA, V _{CE} = -5V
Emitter-base resistance	R	32.9	47	61.1	kΩ	-
Transition frequency	f _T	-	250	-	MHz	V _{CE} = -10V, I _E =5mA, f=100MHz *

* Transition frequency of the device.

●Electrical characteristics curves

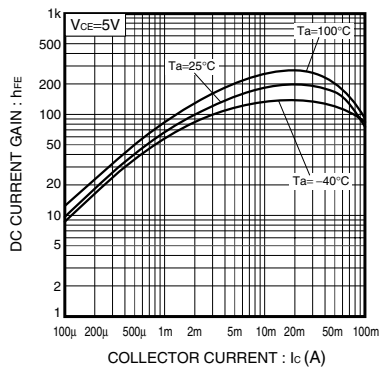


Fig.1 DC current gain vs. Collector current

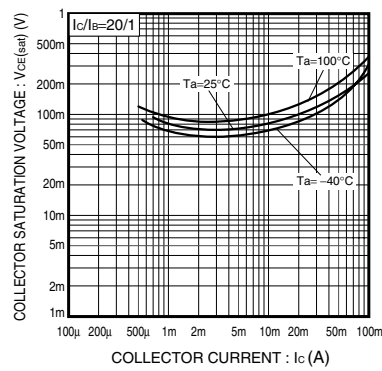


Fig.2 Collector-Emitter saturation voltage vs. Collector current

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