

-100mA / -50V Digital transistors (with built-in resistors)

DTA124GKA

● Applications

Inverter, Interface, Driver

● 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 the device design easy.
- 3) Higher mounting densities can be achieved.

● Structure

PNP epitaxial planar silicon transistor
(Resistor built-in type)

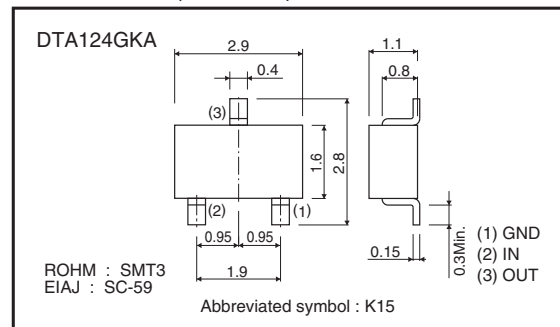
● Packaging specifications

Part No.	Package	SMT3
	Packaging type	Taping
	Code	T146
	Basic ordering unit (pieces)	3000
DTA124GKA		-

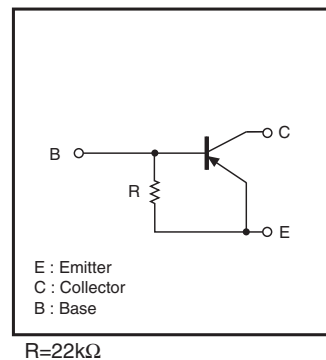
● Absolute maximum ratings (Ta=25°C)

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	V
Collector power dissipation	P_c	200	mA
Junction temperature	T_j	150	°C
Storage temperature	T_{stg}	-55 to +150	°C

● Dimensions (Unit : mm)



● Inner circuit



● 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 _{CE0}	-50	-	-	V	I _c =-1mA
Emitter-base breakdown voltage	BV _{EB0}	-5	-	-	V	I _E =-330μA
Collector cutoff current	I _{CB0}	-	-	-0.5	μA	V _{CB} =-50V
Emitter cutoff current	I _{EB0}	-140	-	-260	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}	56	-	-	-	I _c =-5mA, V _{CE} =-5V
Emitter-base resistance	R	15.4	22	28.6	kΩ	-
Transition frequency	f _T *	-	250	-	MHz	V _{CE} =-10V, I _E =5mA, f=100MHz

*Characteristics of built-in transistor.

● Electrical characteristic curves

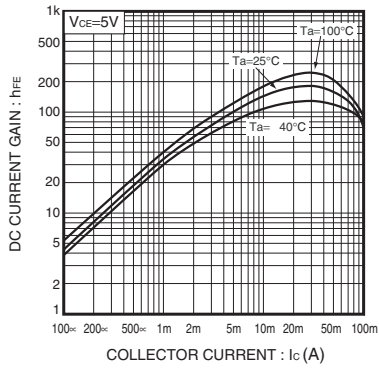


Fig.1 DC current gain vs. Collector current

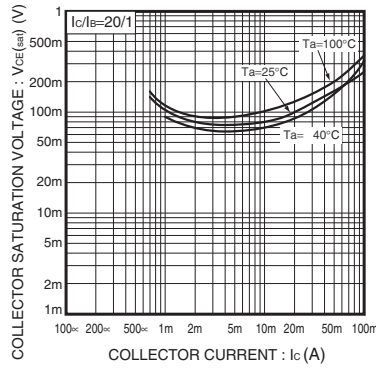


Fig.2 Collector-Emitter saturation voltage vs. Collector current

Notes

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