

100mA / 50V Digital transistors

(with built-in resistors)

DTC124GUA / DTC124GKA

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

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

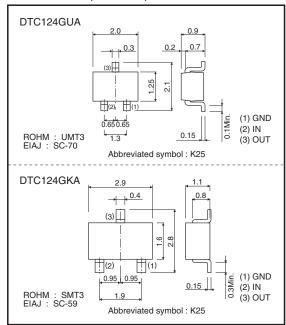
Packaging specifications

	Package	UMT3	SMT3
	Packaging type	Taping	Taping
	Code	T106	T146
Part No.	Basic ordering unit (pieces)	3000	3000
DTC124GUA		0	-
DTC124G	KA	_	0

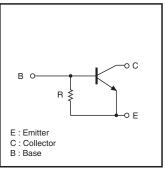
● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	Vсво	50	V
Collector-emitter voltage	VCEO	50	V
Emitter-base voltage	VEBO	5	V
Collector current	lc	100	mA
Collector power dissipation	Pc	200	mW
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

Dimensions (Unit : mm)



• Inner circuit



R=22kΩ

• Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Collector-base breakdown voltage	ВУсво	50	-	-	V	Ic=50μA
Collector-emitter breakdown voltage	BVCEO	50	-	-	V	Ic=1mA
Emitter-base breakdown voltage	ВУево	5	-	-	V	Iε=330μA
Collector cutoff current	Ісво	-	-	0.5	μΑ	Vcb=50V
Emitter cutoff current	ІЕВО	140	-	260	μΑ	V _{EB} =4V
Collector-emitter saturation voltage	VCE(sat)	-	-	0.3	V	Ic=10mA, I _B =0.5mA
DC current transfer ratio	hre	56	-	-	-	Ic=5mA, VcE=5V
Emitter-base resistance	R	15.4	22	28.6	kΩ	_
Transition frequency	f⊤ *	-	250	-	MHz	VcE=10V, IE= -5mA, f=100MHz

^{*} Characteristics of built-in transistor

• Electrical characteristic curves

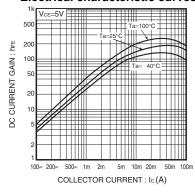


Fig.1 DC current gain vs. Collector current

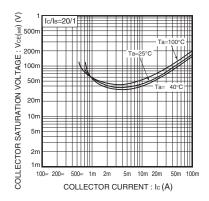


Fig.2 Collector-Emitter saturation voltage vs. Collector current

Notes

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