Digital transistors (built-in resistor)

DTA124GKA / DTA124GSA

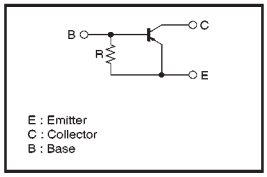
●**Features**

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.

●**Absolute maximum ratings** (Ta=25℃)

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	mA
Collector power dissipation	DTA124GKA	P_C	200	mW
	DTA124GSA		300	
Junction temperature		Tj	150	℃
Storage temperature		Tstg	−55~+150	℃

●**Circuit schematic**



E : Emitter
C : Collector
B : Base

●**Package, marking, and packaging specifications**

Part No.	DTA124GKA	DTA124GSA
Package	SMT3	SPT
Marking	K15	—
Packaging code	T146	TP
Basic ordering unit (pieces)	3000	5000

●**Electrical characteristics** (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	−50	—	—	V	I_C=−50 μA
Collector-emitter breakdown voltage	BV_{CEO}	−50	—	—	V	I_C=−1mA
Emitter-base breakdown voltage	BV_{EBO}	−5	—	—	V	I_E=−330 μA
Collector cutoff current	I_{CBO}	—	—	−0.5	μA	V_{CB}=−50V
Emitter cutoff current	I_{EBO}	−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 *

* Transition frequency of the device.

(94-543-A124G)

Digital transistors (built-in resistor)

DTC124GUA / DTC124GKA / DTC124GSA

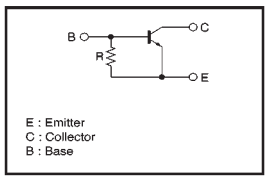
●**Features**

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.

●**Absolute maximum ratings** (Ta=25℃)

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	mA
Collector power dissipation	DTC124GUA/DTC124GKA	P_C	200	mW
	DTC124GSA		300	
Junction temperature		Tj	150	℃
Storage temperature		Tstg	−55~+150	℃

●**Circuit schematic**



E : Emitter
C : Collector
B : Base

●**Package, marking, and packaging specifications**

Part No.	DTC124GUA	DTC124GKA	DTC124GSA
Package	UMT3	SMT3	SPT
Marking	K25	K25	—
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

●**Electrical characteristics** (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	I_C=50 μA
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	I_C=1mA
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	I_E=330 μA
Collector cutoff current	I_{CBO}	—	—	0.5	μA	V_{CB}=50V
Emitter cutoff current	I_{EBO}	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 *

* Transition frequency of the device.

(94S-665-C124G)