

Digital transistor (built-in resistor)

DTC125TUA / DTC125TKA / DTC125TSA

●Features

- 1) Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors.
- 2) The bias resistors consist of thin-film resistors with complete isolation to allow negative biasing of the input, and parasitic effects are almost completely eliminated.
- 3) Only the on / off conditions need to be set for operation, making device design easy.
- 4) Higher mounting densities can be achieved.

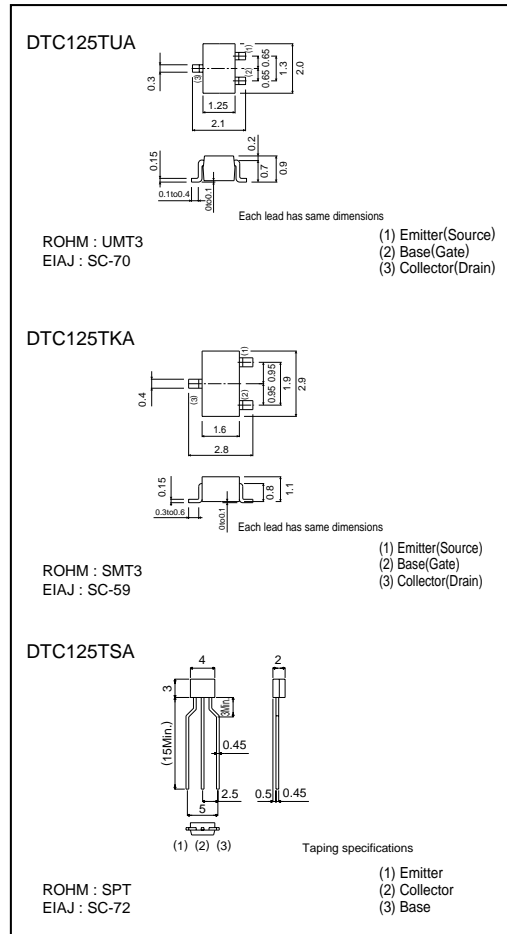
●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CE0}	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	200 300	mW
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55 ~ +150	°C

●Package, marking, and packaging specifications

Part No.	DTC125TUA	DTC125TKA	DTC125TSA
Package	UMT3	SMT3	SPT
Marking	0A	0A	-
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

●External dimensions (Units : mm)



●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV _{CE0}	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 = 50μA
Collector cutoff current	I _{CB0}	-	-	0.5	μA	V _{CB} = 50V
Emitter cutoff current	I _{EB0}	-	-	0.5	μA	V _{EB} = 4V
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	0.3	V	I _c = 0.5mA, I _B = 0.05mA
DC current transfer ratio	h _{FE}	100	250	600	-	I _c = 1mA, V _{CE} = 5V
Input resistance	R ₁	140	200	260	kΩ	-
Transition frequency	f _T	-	250	-	MHz	V _{CE} = 10V, I _E = -5mA, f = 100MHz *

* Transition frequency of the device.

●Circuit schematic

