

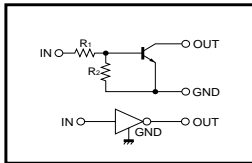
Digital transistor (built-in resistors)

DTC144VUA / DTC144VKA / DTC144VSA

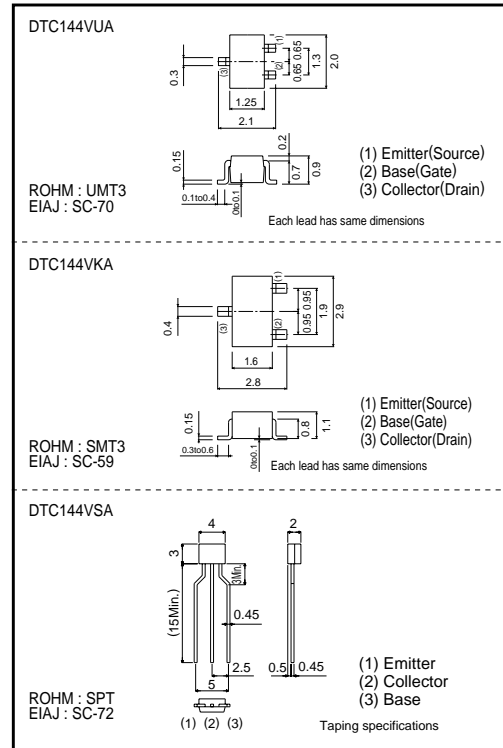
●Features

- 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.

●Equivalent circuit



●External dimensions (Units : mm)



●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit	
Supply voltage	V _{CC}	50	V	
Input voltage	V _i	-15~+40	V	
Output current	I _o	30	mA	
	I _{C(Max)}	100		
Power dissipation	DTC144VUA / DTC144VKA DTC144VSA	P _d	200	mW
		300		
Junction temperature	T _J	150	°C	
Storage temperature	T _{stg}	-55~+150	°C	

●Packaging, marking and packaging specifications

Type	DTC144VUA	DTC144VKA	DTC144VSA
Package	UMT3	SMT3	SPT
Marking	166	E66	-
Packaging code	T106	T146	TP
Basic ordering unit (pieces)	3000	3000	5000

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V _{i(off)}	-	-	1	V	V _{CC} =5V, I _o =100μA
	V _{i(on)}	6	-	-		V _o =0.3V, I _o =2mA
Output voltage	V _{o(on)}	-	0.1	0.3	V	I _o =10mA, I _i =0.5mA
Input current	I _i	-	-	0.16	mA	V _i =5V
Output current	I _{o(off)}	-	-	0.5	μA	V _{CC} =50V, V _i =0V
DC current gain	G _i	33	-	-	-	I _o =5mA, V _o =5V
Input resistance	R _i	32.9	47	61.1	kΩ	-
Resistance ratio	R _z /R _i	0.17	0.21	0.26	-	-
Transition frequency	f _t	-	250	-	MHz	V _{CE} =10V, I _E =-5mA, f=100MHz *

* Transition frequency of the device.