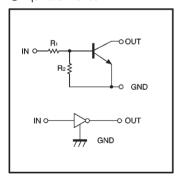
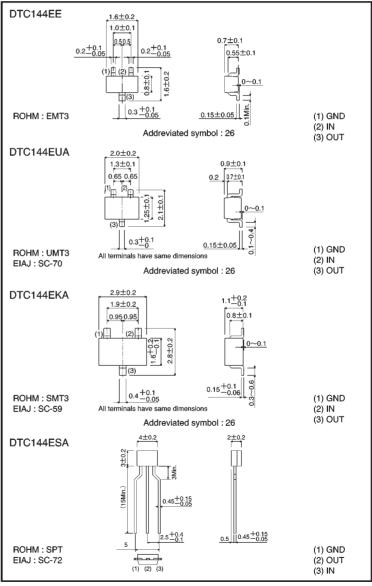
Digital transistors (built-in resistors) DTC144EE / DTC144EUA / DTC144EKA DTC144ESA

Features

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- The bias resistors consist of thinfilm resistors with complete isolation to allow negative biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- Only the on/off conditions need to be set for operation, making device design easy.
- ●Structure PNP digital transistor (Built-in resistors)
- Equivalent circuit



External dimensions (Units: mm)



(96-337-C144E)

●Absolute maximum ratings (Ta = 25°C)

Parameter	Cumbal	Limits(DTC144E□)				l Imia	
Parameter	Symbol	Е	UA	KA	SA	Unit	
Supply voltage	Vcc	50				V	
Input voltage	Vin	-10~+40				٧	
Output current	lo	30				mA	
	IC(Max.)	100					
Power dissipation	Pd	150	20	00	300	mW	
Junction temperature	Tj	150			Ç		
Storage temperature	Tstg	-55~+150			°C		

●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions		
Input voltage	VI (off)	_	_	0.5	.,	Vcc=5V, lo=100 μ A		
	VI (on)	3	_	_	V	Vo=0.3V, Io=2mA		
Output voltage	VO(on)	_	_	0.3	V	Io/Iı=10mA/0.5mA		
Input current	lı	_	_	0.18	mA	V _I =5V		
Output current	lO(off)	_	_	0.5	μΑ	Vcc=50V, Vi=0V		
DC current gain	Gı	68	_	_	_	Vo=5V, Io=5mA		
Input resistance	R ₁	32.9	47	61.1	kΩ	_		
Resistance ratio	R ₂ /R ₁	0.8	1	1.2	_	_		
Transition frequency	fτ	_	250	_	MHz	VcE=10V, IE=-5mA, f=100MHz *		

^{*} Transition frequency of the device

Packaging specifications

	Package	EMT3	UMT3	SMT3	SPT
	Packaging type	Taping	Taping	Taping	Taping
	Code	TL	T106	T146	TP
Part No.	Basic ordering unit (pieces)	3000	3000	3000	5000
DTC144EE		0	_	_	_
DTC144EU	A	_	0	_	_
DTC144EK	4	_	_	0	_
DTC144ES	4	_	_	_	0

Electrical characteristic curves

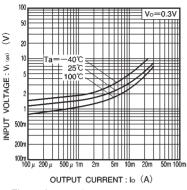


Fig.1 Input voltage vs. output current (ON characteristics)

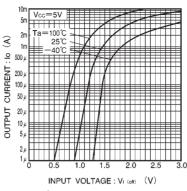


Fig.2 Output current vs. input voltage (OFF characteristics)

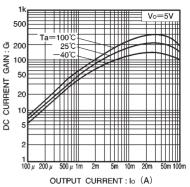


Fig.3 DC current gain vs. output current

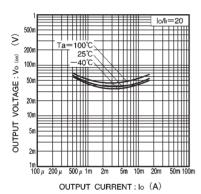


Fig.4 Output voltage vs. output current