Digital transistors (built-in resistors) DTB113EK / DTB113ES

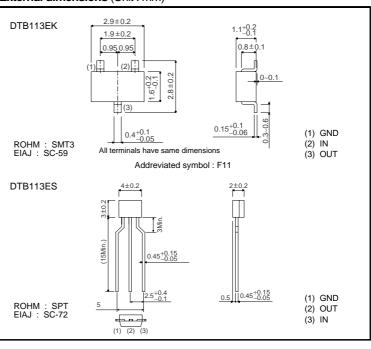
Feature

- Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 2) The bias resistors consist of thinfilm resistors with complete isolation to allow positive 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 resistor type)

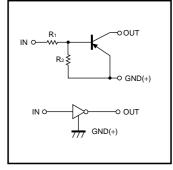
•External dimensions (Unit : mm)



•Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits(DT	Unit		
Falameter	Symbol	К	S	Unit	
Supply voltage	Vcc	-50		V	
Input voltage	Vin	–10 t	V		
Output current	lc	-500		mA	
Power dissipation	Pd	200	300	mW	
Junction temperature	Tj	150		°C	
Storage temperature	Tstg	-55 to +150		Ĵ	

•Equivalent circuit



Transistors

•Electrical characteristics (Ta=25°C)

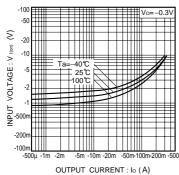
	-						
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Input voltage	VI(off)	-	-	-0.5	V	$Vcc=-5V$, $Io=-100\mu A$	
	VI(on)	-3	-	-	V	Vo=-0.3V, Io=-20mA	
Output voltage	VO(on)	-	-	-0.3	V	lo/l=-50mA/-2.5mA	
Input current	h	-	-	-7.2	mA	VI=-5V	
Output current	IO(off)	-	-	-0.5	μΑ	Vcc=-50V, VI=0V	
DC current gain	Gı	33	-	-	-	Vo=-5V, Io=-50mA	
Input resistance	R1	0.7	1	1.3	kΩ	_	
Resistance ratio	R2/R1	0.8	1	1.2	-	_	
Transition frequency	f⊤	-	200	-	MHz	Vce=-10V, Ie=50mA, f=100MHz *	
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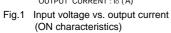
* Transition frequency of the device

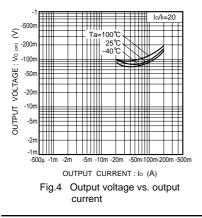
Packaging specifications

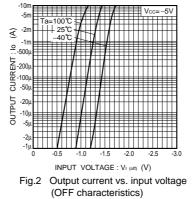
	Package	SMT3	SPT
	Packaging type	Taping	Taping
	Code	T146	TP
Part No.	Basic ordering unit (pieces)	3000	5000
DTB113EK		0	-
DTB113ES		_	0

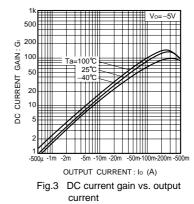
•Electrical characteristics curves











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