

-200mA / -30V Low V_{CE} (sat) Digital transistors (with built-in resistors)

DTB743EE / DTB743EM

Applications

Inverter, Interface, Driver

● Feature

- 1. Vce (sat) is lower than the conventional products.
- 2. Built-in bias resistors enable the configuration of an inverter circuit without connecting external input resistors (see equivalent circuit).
- 3. The bias resistors consist of thin-film resistors with complete isolation to allow positive biasing of the input. They also have the advantage of almost completely eliminating parasitic effects.
- 4. Only the on / off conditions need to be set for operation, making the device design easy.

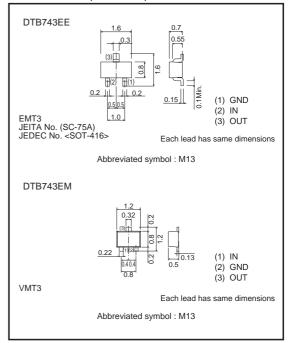
Structure

PNP epitaxial plannar silicon transistor (Resistor built-in type)

Packaging specifications

э - р							
	Package	EMT3	VMT3				
	Packaging type	Taping	Taping				
	Code	TL	T2L				
Part No.	Basic ordering unit (pieces)	3000	8000				
DTB743EE		0	_				
DTB743EM		-	0				

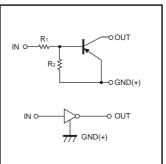
●Dimensions (Unit:mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
raidilletei	Symbol	DTB743EE DTB743E	М
Supply voltage	Vcc	-30	V
Input voltage	Vin	-20 to +10	V
Collector current *1	IC (max)	-200	mA
Power dissipation *2	Pp	150	mW
Junction temperature	Tj	150	ဗ
Storage temperature	Tstg	-55 to +150	ొ

•Inner circuit



 $R_1=4.7k\Omega / R_2=4.7k\Omega$

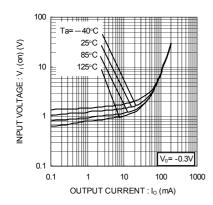
^{*1} Characteristics of built-in transistor. *2 Each terminal mounted on a recommended land.

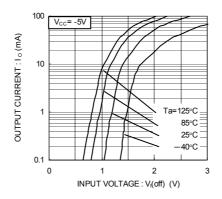
●Electrical characteristics (Ta=25°C)

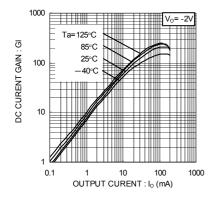
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Input voltage	VI(off)	-	_	-0.5	V	Vcc= -5V, Io= -100μA
Input voltage	VI(on)	-2.5	-	_		Vo=-0.3V, Io=-20mA
Output voltage	Vo(on)	-	-70	-300	mV	Io/I:=-50mA / -2.5mA
Input current	lı	_	_	-1.4	mA	V _I = −5V
Output current	IO(off)	_	_	-500	nA	Vcc=-30V, Vi=0V
DC current gain	Gı	115	_	_	_	Vo=-2V, Io=-100mA
Transition frequency *	f⊤	_	260	_	MHz	Vc=-10V, Ie=5mA, f=100MHz
Input resistance	R ₁	3.29	4.7	6.11	kΩ	_
Resistance ratio	R2/R1	0.8	1.0	1.2	_	_

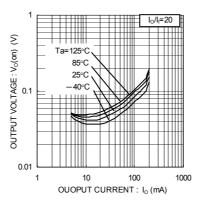
^{*} Characteristics of built-in transistor.

•Electrical characteristics curves









Notes

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