

-500mA/-12V Low V_{CE} (sat) Digital transistors(with built-in resistors) DTB523YE / DTB523YM

Datasheet

(2) GND

Applications

Inverter, Interface, Driver

●Feature

- 1) VCE (sat) is lower than 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

a manuaging operations							
	Package	EMT3	VMT3				
	Packaging type	Taping	Taping				
	Code	TL	T2L				
Part No.	Basic ordering unit (pieces)	3000	8000				
DTB523YE		0	_				
DTB523YM		-	0				

(1) GND (2) IN EMT3 JEITA No. (SC-75A) JEDEC No. <SOT-416> (3) OUT DTB523YM

● Dimensions (Unit: mm)

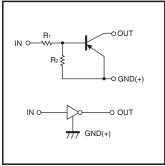
DTB523YE

●Absolute maximum ratings (Ta=25°C)

Parameter	Cumbal	Limits	Unit	
- raidilletei	Symbol	DTB523YE DTB523YM	Offic	
Supply voltage	Vcc	-12	V	
Input voltage	VIN	-12 to +5	V	
Collector current *1	IC (max)	-500	mA	
Power dissipation *2	Po	150	mW	
Junction temperature	Tj	150	ొ	
Storage temperature	Tstg	-55 to +150	ొ	

•Inner circuit

VMT3



 $R_1=2.2k\Omega / R_2=10k\Omega$

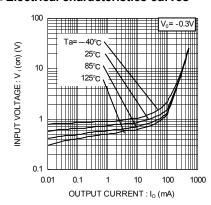
^{*1} Characteristics of built-in transistor. *2 Each terminal mounted on a recommended land.

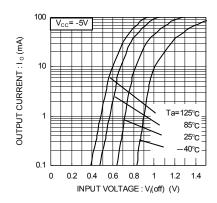
●Electrical characteristics (Ta=25°C)

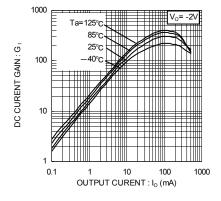
Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
Input voltage	V _{I(off)}	_	_	-0.3	V	Vcc=-5V, Io=-100μA
	V _{I(on)}	-2.5	-	-		Vo=-0.3V, Io=-20mA
Output voltage	Vo(on)	-	-60	-300	mV	Io/I:= -100mA / -5mA
Input current	lı	_	_	-3.0	mA	V _I = −5V
Output current	IO(off)	_	-	-0.5	μΑ	Vcc= -12V, Vi=0V
DC current gain	Gı	140	-	-	-	Vo= -2V, Io=-100mA
Transition frequency *	f⊤	_	260	-	MHz	Vc=-10V, Ie=5mA, f=100MHz
Input resistance	R ₁	1.54	2.2	2.86	kΩ	_
Resistance ratio	R2/R1	3.6	4.5	5.5	_	-

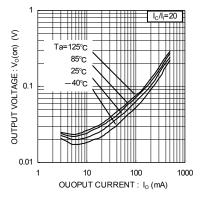
^{*} Characteristics of built-in transistor.

•Electrical characteristics curves









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