General purpose transistor (isolated transistors) EMD28

DTB543X
and DTC144E
A are housed independently in a EMT6 package.

Applications

DC / DC converter Motor driver

Features

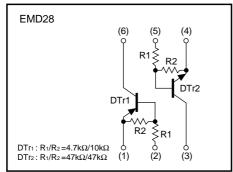
- 1) DTr1 : PNP digital transistor DTr2 : NPN digital transistor
- 2) Mounting possible with EMT3 automatic mounting machines.

Structure

PNP / NPN Silicon epitaxial planar digital transistor

The following characteristics apply to both DTr1 and DTr2.

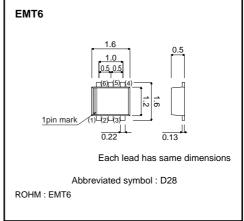
Equivalent circuit



Packaging specifications

Туре	EMD28
Package	EMT6
Marking	D28
Code	T2R
Basic ordering unit (pieces)	8000

•External dimensions (Unit : mm)



Transistors

●Absolute maximum ratings (Ta=25°C) DTr1

Parameter	Symbol	DTr1	Unit
Supply voltage	Vcc	–12	V
Input voltage	Vin	-12 to +7	V
Output current	IC (MAX.)	-500	mA
Power dissipation	Pd	120	mW *
Junction temperature	Tj	150	°C
Storage temperature	Tstg	-55 to +150	°C

* Each terminal mounted on a recommended.

DTr2

Parameter	Symbol	DTr2	Unit		
Supply voltage	Vcc	50	V		
Input voltage	Vin	-10 to +40	V		
Output current	lo	30	mA		
Oulput current	IC (MAX.)	100			
Power dissipation	Pd	120	mW *		
Junction temperature	Tj	150	°C		
Storage temperature	Tstg	-55 to +150	°C		

* Each terminal mounted on a recommended.

DTr1/Tr2

Parameter	Symbol	Limits	Unit
Power dissipation	Pd	150(TOTAL)	mW *
Storage temperature	Tstg	-55 to +125	°C

* Each terminal mounted on a recommended.

Transistors

•Electrical characteristics (Ta=25°C) DTr1

Parameter		Symbol	Min.	Тур.	Max.	Unit	Conditions
		VI(off)	-	-	-0.3	V	Vcc=-5V / Io=-100uA
Input voltage	VI(on)	-2.5	-	-	V	Vo= -0.3V / Io= -20mA	
Output voltage		Vo(on)	-	-70	-300	mV	lo= −100mA, l⊨ −5mA
Input current		h	-	-	-1.8	mA	Vi=-5V
Output current		IO(off)	-	-	-0.5	μA	Vcc=-12V / Vi=0V
DC current gain		Gı	140	-	-	-	Vo= -2V / Io= -100mA
Transition frequency	*	f⊤	-	260	-	MHz	Vce=-10V / Ie=5mA, f=100MHz
Input resistance		R1	3.29	4.7	6.11	kΩ	-
Resistance ratio		R2/R1	1.7	2.1	2.6	_	_

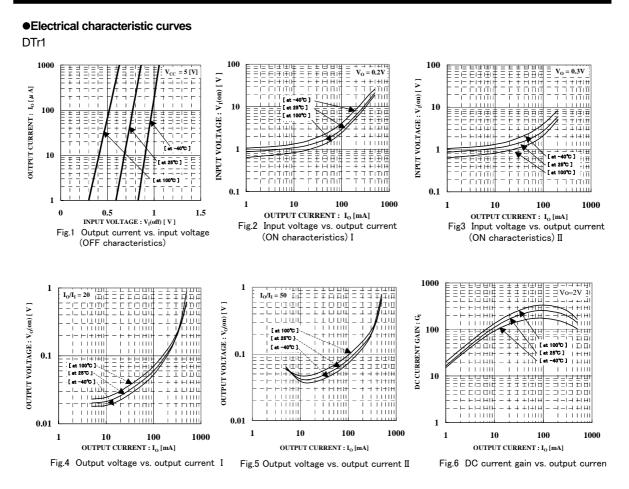
* Characteristics of built-in transistor.

DTr2

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions
	VI(off)	-	-	0.5	V	Vcc=5V / Io=100uA
Input voltage	VI(on)	3	-	-	V	Vo=0.3V / Io=2mA
Output voltage	Vo(on)	-	100	300	mV	lo=10mA, l⊫0.5mA
Input current	h	-	-	0.18	mA	Vi=5V
Output current	IO(off)	-	-	0.5	μA	Vcc=50V / V=0V
DC current gain	Gi	68	-	-	-	Vo=5V / Io=5mA
Transition frequency *	fт	-	250	-	MHz	Vce=10V / Ie= -5mA, f=100MHz
Input resistance	R1	32.9	47	61.1	kΩ	-
Resistance ratio	R2/R1	0.8	1	1.2	-	-

* Characteristics of built-in transistor.

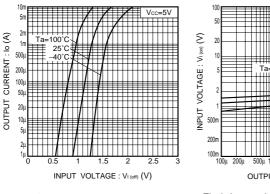
Transistors

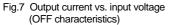


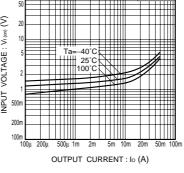
lo/l=20

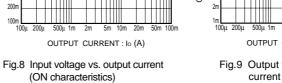
Transistors

DTr2

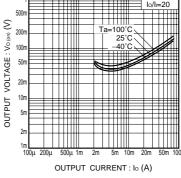


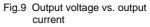


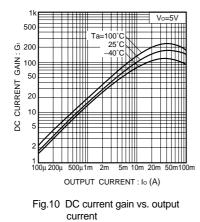




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