

General purpose (dual digital transistors)

EMB3 / UMB3N / IMB3A

●Features

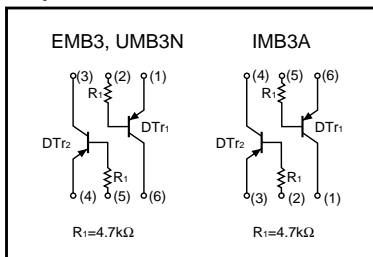
- 1) Two DTA143T chips in a EMT6 or UMT6 or SMT6 package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

Dual PNP digital transistor
(each with single built in resistor)

The following characteristics apply to both DT_{r1} and DT_{r2}.

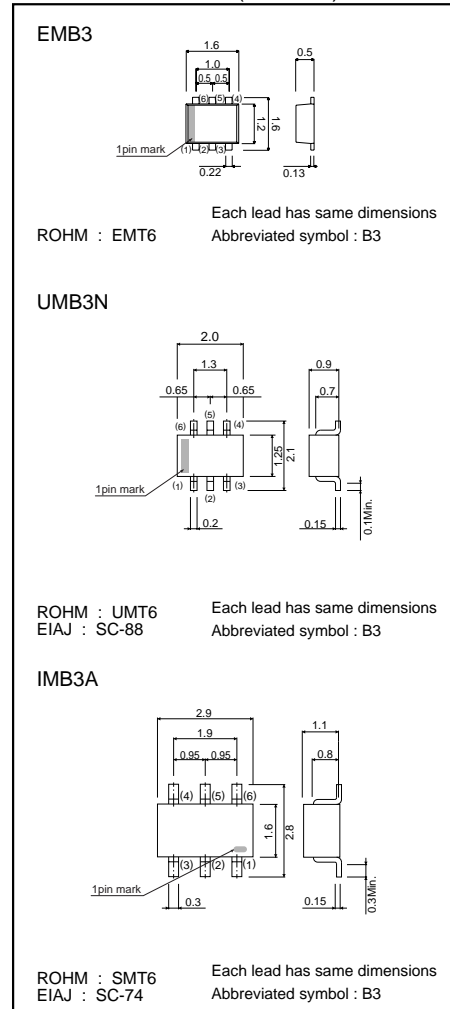
●Equivalent circuit



●Packaging specifications

Type	Package	Taping		
		T2R	TN	T110
	Code			
	Basic ordering unit (pieces)	8000	3000	3000
EMB3		○	-	-
UMB3N		-	○	-
IMB3N		-	-	○

●External dimensions (Unit : mm)



Transistors

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit		
Collector-base voltage	V _{CBO}	-50	V		
Collector-emitter voltage	V _{CEO}	-50	V		
Emitter-base voltage	V _{EBO}	-5	V		
Collector current	I _C	-100	mA		
Collector power dissipation	EMB3, UMB3N	P _C	150 (TOTAL)	mW	*1
	IMB3A		300 (TOTAL)		*2
Junction temperature	T _j	150	°C		
Storage temperature	T _{stg}	-55 to +150	°C		

*1 120mW per element must not be exceeded.
 *2 200mW per element must not be exceeded.

● Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions	
Collector-base breakdown voltage	BV _{CBO}	-50	-	-	V	I _C =-50μA	
Collector-emitter breakdown voltage	BV _{CEO}	-50	-	-	V	I _C =-1mA	
Emitter-base breakdown voltage	BV _{EBO}	-5	-	-	V	I _E =-50μA	
Collector cutoff current	I _{CBO}	-	-	-0.5	μA	V _{CB} =-50V	
Emitter cutoff current	I _{EBO}	-	-	-0.5	μA	V _{EB} =-4V	
Collector-emitter saturation voltage	V _{CE(sat)}	-	-	-0.3	V	I _C /I _B =-5mA/-2.5mA	
DC current transfer ratio	h _{FE}	100	250	600	-	V _{CE} =-5V, I _C =-1mA	
Transition frequency	f _T	-	250	-	MHz	V _{CE} =10mA, I _E =-5mA, f=100MHz	*
Input resistance	R ₁	3.29	4.7	6.11	kΩ	-	

* Transition frequency of the device

● Electrical characteristic curves

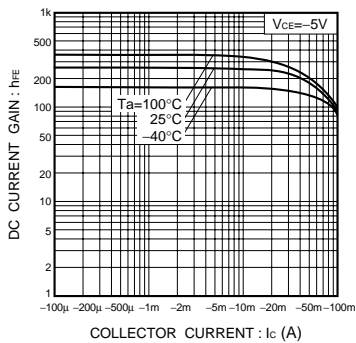


Fig.1 DC current gain vs. collector current

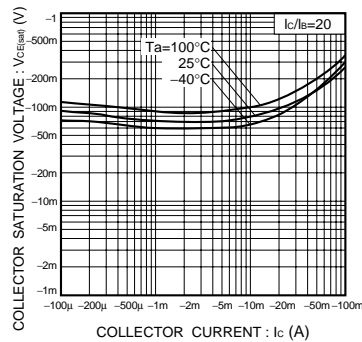


Fig.2 Collector-emitter saturation voltage vs. collector current

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