

General purpose (dual digital transistors)

UMB3N / IMB3A

●Features

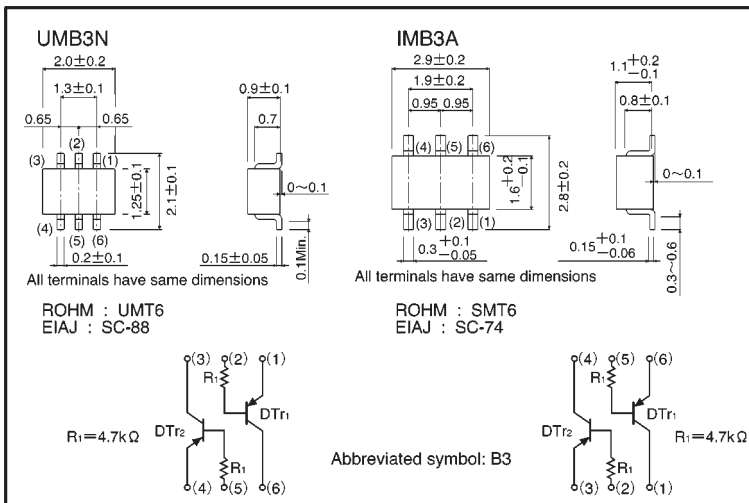
- 1) Two DTA143T chips in a UMT or SMT package.
- 2) Mounting possible with UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

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

The following characteristics apply to both DTr₁ and DTr₂.

●External dimensions (Units: mm)



●Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

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	UMB3N	150 (TOTAL)	mW
	IMB3A	300 (TOTAL)	
Junction temperature	T_j	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ +150	$^\circ\text{C}$

*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	$I_C = -50\text{ }\mu\text{A}$
Collector-emitter breakdown voltage	BV_{CEO}	-50	—	—	V	$I_C = -1\text{mA}$
Emitter-base breakdown voltage	BV_{EBO}	-5	—	—	V	$I_E = -50\text{ }\mu\text{A}$
Collector cutoff current	I_{CBO}	—	—	-0.5	μA	$V_{CB} = -50\text{V}$
Emitter cutoff current	I_{EBO}	—	—	-0.5	μA	$V_{EB} = -4\text{V}$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	-0.3	V	$I_C/I_B = -5\text{mA}/-2.5\text{mA}$
DC current transfer ratio	h_{FE}	100	250	600	—	$V_{CE} = -5\text{V}$, $I_C = -1\text{mA}$
Transition frequency	f_T	—	250	—	MHz	$V_{CE} = 10\text{mA}$, $I_E = -5\text{mA}$, $f = 100\text{MHz}$ *
Input resistance	R_1	3.29	4.7	6.11	k Ω	—

* Transition frequency of the device

●Packaging specifications

Part No.	Packaging type	Taping	
	Code	TN	T110
	Basic ordering unit (pieces)	3000	3000
UMB3N		○	—
IMB3N		—	○

●Electrical characteristic curves

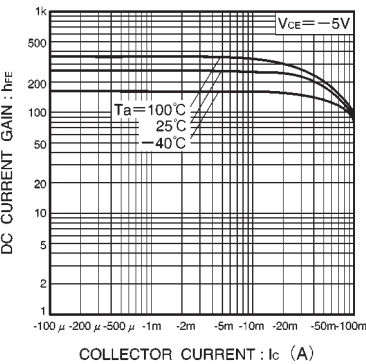


Fig.1 DC current gain vs. collector current

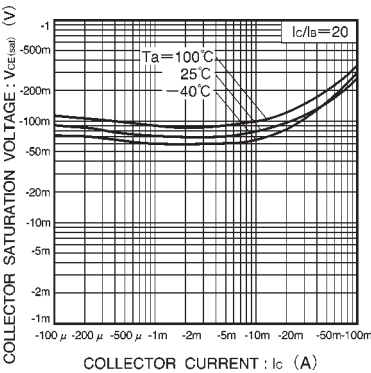


Fig.2 Collector-emitter saturation voltage vs. collector current