

# 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 DT<sub>Tr1</sub> and DT<sub>Tr2</sub>.

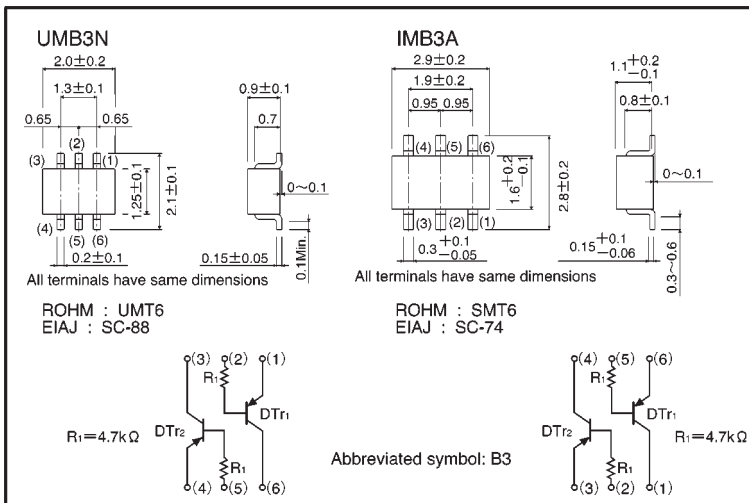
### ●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CBO</sub>	-50	V
Collector-emitter voltage	V <sub>CEO</sub>	-50	V
Emitter-base voltage	V <sub>EBO</sub>	-5	V
Collector current	I <sub>c</sub>	-100	mA
Collector power dissipation	UMB3N	150 (TOTAL)	mW
	IMB3A	300 (TOTAL)	
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\*1 120mW per element must not be exceeded.

\*2 200mW per element must not be exceeded.

### ●External dimensions (Units: mm)



●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	-50	—	—	V	$I_C = -50 \mu A$
Collector-emitter breakdown voltage	$BV_{CEO}$	-50	—	—	V	$I_C = -1mA$
Emitter-base breakdown voltage	$BV_{EBO}$	-5	—	—	V	$I_E = -50 \mu A$
Collector cutoff current	$I_{CBO}$	—	—	-0.5	$\mu A$	$V_{CB} = -50V$
Emitter cutoff current	$I_{EBO}$	—	—	-0.5	$\mu A$	$V_{EB} = -4V$
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	k $\Omega$	—

\* 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

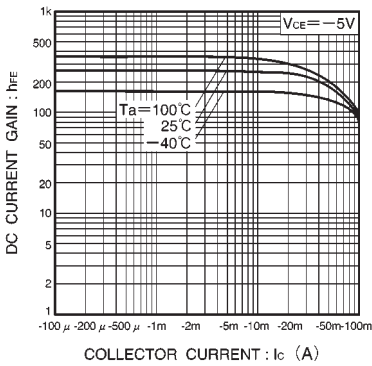


Fig.1 DC current gain vs. collector current

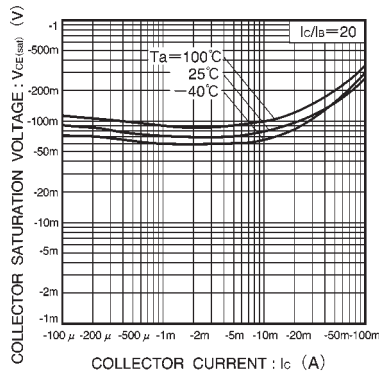


Fig.2 Collector-emitter saturation voltage vs. collector current