# General purpose (dual digital transistors)

# **EMB10 / UMB10N / IMB10A**

#### Features

- 1) Two DTA123J chips in a EMT or UMT or SMT
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

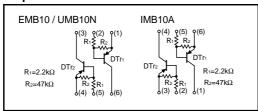
#### Structure

Epitaxial planar type

PNP silicon transistor (Built-in resistor type)

The following characteristics apply to both DTr1 and DTr2.

## ●Equivalent circuit

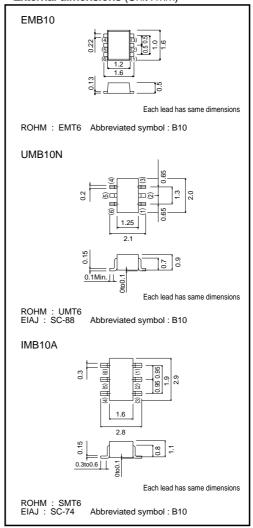


#### ● Absolute maximum ratings (Ta = 25°C)

		• •	,		
Parameter		Symbol	Limits	Unit	
Supply voltage		Vcc	-50	V	
Input voltage		Vin	-12	V	
		VIN	5		
Output current		lo	-100	mA	
		Ic (Max.)	(Max.) -100		
Power dissipation	EMB10, UMB10N	Pd	150 (TOTAL)	mW *1	
	IMB10A	Pa	300 (TOTAL)		
Junction temperature		Tj	150	°C	
Storage temperature		Tstg	-55 to +150	°C	

<sup>\*1 120</sup>mW per element must not be exceeded

# External dimensions (Unit : mm)



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<sup>\*2 200</sup>mW per element must not be exceeded

#### ●Electrical characteristics (Ta = 25°C)

Parameter	Symbol	Min.	Тур.	Max.	Unit	Conditions	
Input voltage	VI (off)	-	-	-0.5	V	Vcc=-5V, lo=-100μA	
iliput voltage	VI (on)	-1.1	-	-	v	Vo=-0.3V, Io=-5mA	
Output voltage	Vo (on)	-	-0.1	-0.3	V	Io/I=-5mA/-0.25mA	
Input current	lı	-	-	-3.6	mA	V=-5V	
Output current	IO (off)	-	-	-0.5	μΑ	Vcc=-50V, Vi=0V	
DC current gain	Gı	80	-	-	-	Vo=-5V, Io=-10mA	
Transition frequency	fτ	-	250	-	MHz	Vc=-10V, Ie=5mA, f=100MHz *	
Input resistance	R <sub>1</sub>	1.54	2.2	2.86	kΩ	-	
Resistance ratio	R <sub>2</sub> / R <sub>1</sub>	17	21	26	-	-	

<sup>\*</sup> Transition frequency of the device

## Packaging specifications

	Package	Taping			
	Code	T2R	TN	T148	
Туре	Basic ordering unit (pieces)	8000	3000	3000	
EMB10		0	_	_	
UMB10N		_	0	_	
IMB10A		_	_	0	

# •Electrical characteristic curves

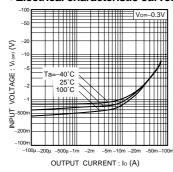


Fig.1 Input voltage vs. output current (ON characteristics)

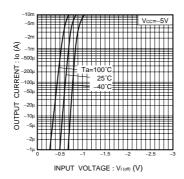


Fig.2 Output current vs. input voltage (OFF characteristics)

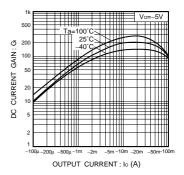


Fig.3 DC current gain vs. output current

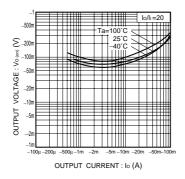


Fig.4 Output voltage vs. output current

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