

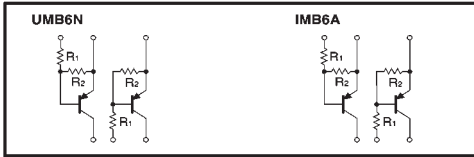
# General purpose (dual digital transistors)

## UMB6N / IMB6A

● Features

1) Two DTA144E chips in a UMT or SMT package.

● Circuit diagrams



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	-50	V
Input voltage	V <sub>IN</sub>	-40	V
		10	
Output current	I <sub>O</sub>	50	mA
Power dissipation	UMB6N	150 (TOTAL)	mW *1
	IMB6A	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.

● Package, marking, and packaging specifications

Part No.	UMB6N	IMB6A
Package	UMT6	SMT6
Marking	B6	B6
Code	TR	T110
Basic ordering unit (pieces)	3000	3000

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V <sub>I (off)</sub>	—	—	-0.5	V	V <sub>CC</sub> =-5V, I <sub>O</sub> =-100 μA
	V <sub>I (on)</sub>	-3.0	—	—		
Output voltage	V <sub>O (on)</sub>	—	-0.1	-0.3	V	V <sub>O</sub> =-0.3V, I <sub>O</sub> =-2mA
Input current	I <sub>I</sub>	—	—	-0.18	mA	I <sub>O</sub> =-10mA, I <sub>I</sub> =-0.5mA
Output current	I <sub>O (off)</sub>	—	—	-0.5	μA	V <sub>I</sub> =-5V
DC current gain	G <sub>I</sub>	68	—	—	—	V <sub>CC</sub> =-50V, V <sub>I</sub> =0V
		—	—	—		
Input resistance	R <sub>I</sub>	32.9	47	61.1	kΩ	—
		—	—	—		
Resistance ratio	R <sub>Z</sub> /R <sub>I</sub>	0.8	1.0	1.2	—	—
Transition frequency	f <sub>T</sub>	—	250	—	MHz	V <sub>CE</sub> =-10V, I <sub>E</sub> =5mA, f=100MHz *3

\*3 Transition frequency of the device.

(94S-846-A144E)

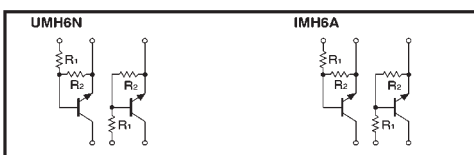
# General purpose (dual digital transistors)

## UMH6N / IMH6A

● Features

1) Two DTC144E chips in a SMT package.

● Circuit diagrams



● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	50	V
Input voltage	V <sub>IN</sub>	40	V
		-10	
Output current	I <sub>O</sub>	30	mA
Power dissipation	UMH6N	150 (TOTAL)	mW *1
	IMH6A	300 (TOTAL)	
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-50~+150	°C

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

● Package, marking, and packaging specifications

Part No.	UMH6N	IMH6A
Package	UMT6	SMT6
Marking	H6	H6
Code	TR	T108
Basic ordering unit (pieces)	3000	3000

● Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V <sub>I (off)</sub>	—	—	0.5	V	V <sub>CC</sub> =5V, I <sub>O</sub> =100 μA
	V <sub>I (on)</sub>	3	—	—		
Output voltage	V <sub>O (on)</sub>	—	0.1	0.3	V	V <sub>O</sub> =0.3V, I <sub>O</sub> =2mA
Input current	I <sub>I</sub>	—	—	0.18	mA	I <sub>O</sub> /I <sub>I</sub> =10mA/0.5mA
Output current	I <sub>O (off)</sub>	—	—	0.5	μA	V <sub>I</sub> =5V
DC current gain	G <sub>I</sub>	68	—	—	—	V <sub>CC</sub> =50V, V <sub>I</sub> =0V
		—	—	—		
Input resistance	R <sub>I</sub>	32.9	47	61.1	kΩ	—
		—	—	—		
Resistance ratio	R <sub>Z</sub> /R <sub>I</sub>	0.8	1	1.2	—	—
Transition frequency	f <sub>T</sub>	—	250	—	MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz *3

\*3 Transition frequency of the device.

(96-484-C144E)