

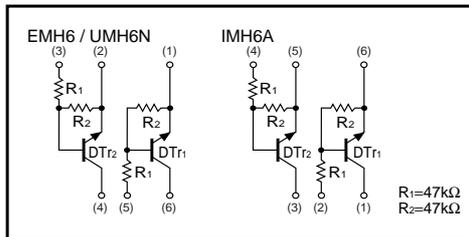
# General purpose (dual digital transistors)

## EMH6 / UMH6N / IMH6A

### ●Features

- 1) Two DTC144E chips in a EMT or UMT or SMT package.

### ●Equivalent circuit



### ●Package, marking, and packaging specifications

Type	EMH6	UMH6N	IMH6A
Package	EMT6	UMT6	SMT6
Marking	H6	H6	H6
Code	T2R	TR	T108
Basic ordering unit (pieces)	8000	3000	3000

### ●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 -10	V
Output current	I <sub>O</sub>	30	mA
COLLECTOR CURRENT	I <sub>C(MAX)</sub>	100	mA
Power dissipation	EMH6 / UMH6N	150(TOTAL)	mW *1
	IMH6A	300(TOTAL)	
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

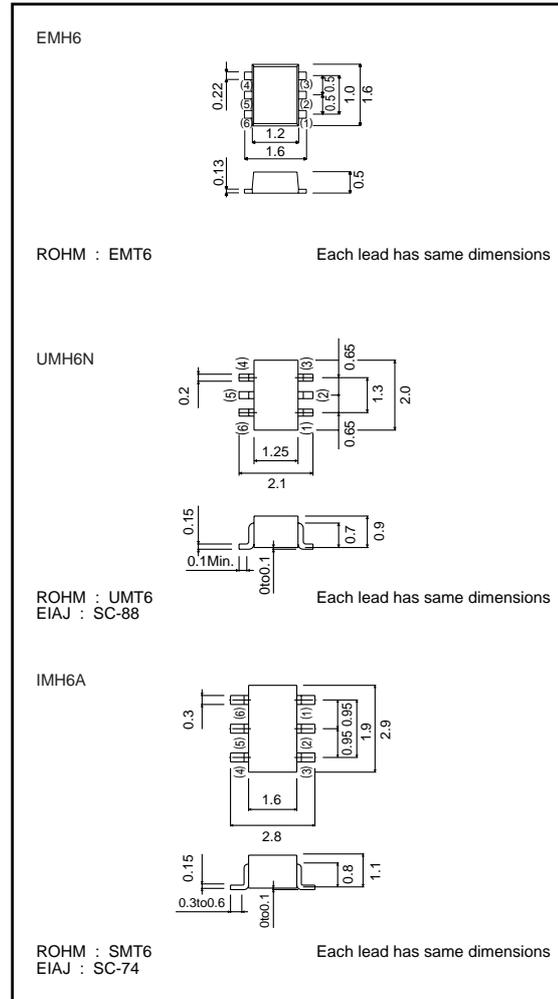
\*1 120mW per element must not be exceeded.  
\*2 200mW per element must not be exceeded.

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

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

\*Transition frequency of the device.

### ●External dimensions (Unit : mm)



Transistors

●Electrical characteristics curves

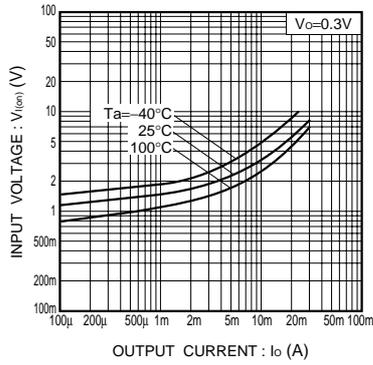


Fig.1 Input voltage vs. output current (ON characteristics)

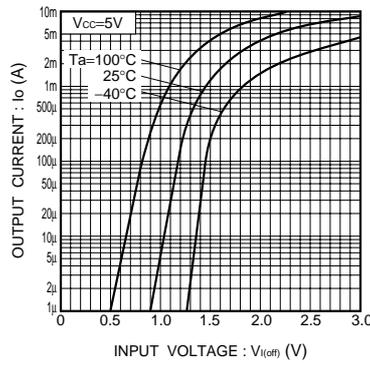


Fig.2 Output current vs. input voltage (OFF characteristics)

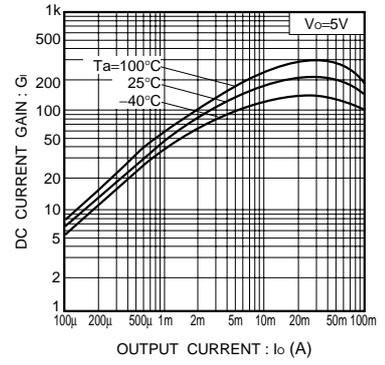


Fig.3 DC current gain vs. output current

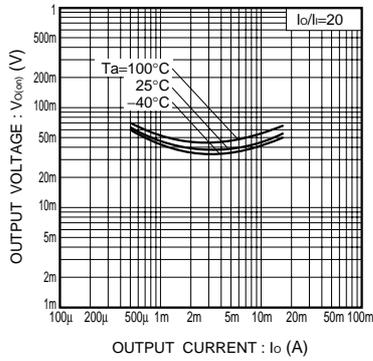


Fig.4 Output voltage vs. output current

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