

Transistors

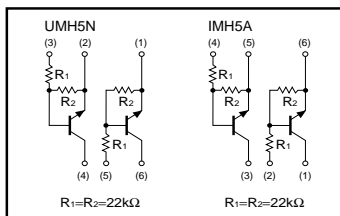
# General purpose (dual digital transistors)

## UMH5N / IMH5A

●Features

- 1) Two DTC124E chips in a EMT or UMT or SMT package.

●Circuit schematic



●Absolute maximum ratings (Ta = 25°C)

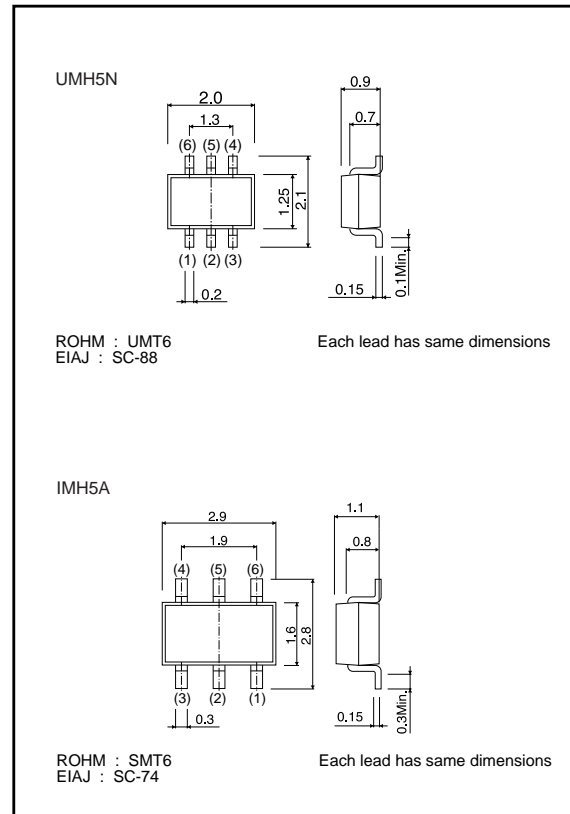
Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	50	V
Input voltage	V <sub>IN</sub>	40	V
		-10	
Output current	I <sub>O</sub>	30	mA
Collector current	I <sub>C(MAX)</sub>	100	mA
Power dissipation	UMH5N	150(TOTAL)	mW *1
	IMH5A	300(TOTAL)	
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C

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

●Package, marking, and packaging specifications

Type	UMH5N	IMH5A
Package	UMT6	SMT6
Marking	H5	H5
Code	TR	T108
Basic ordering unit (pieces)	3000	3000

●Dimensions (Unit : mm)



ROHM : UMT6  
EIAJ : SC-88

Each lead has same dimensions

ROHM : SMT6  
EIAJ : SC-74

Each lead has same dimensions

●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> =0.2V, I <sub>O</sub> =5mA
Output voltage	V <sub>O (on)</sub>	-	0.1	0.3	V	I <sub>O</sub> =10mA, I <sub>I</sub> =0.5mA
Input current	I <sub>I</sub>	-	-	0.36	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>	56	-	-	-	V <sub>O</sub> =5V, I <sub>O</sub> =5mA
Transition frequency	f <sub>T</sub>	-	250	-	MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz *
Input resistance	R <sub>1</sub>	15.4	22	28.6	kΩ	-
Resistance ratio	R <sub>2</sub> / R <sub>1</sub>	0.8	1	1.2	-	-

\* Characteristics of built-in transistor

Transistors

●Electrical characteristics curves

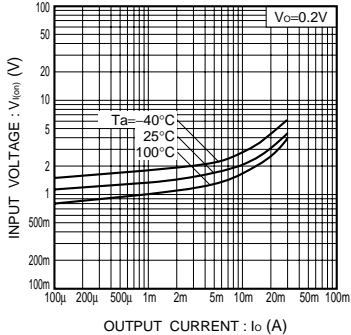


Fig.1 Input voltage vs. output current (ON characteristics)

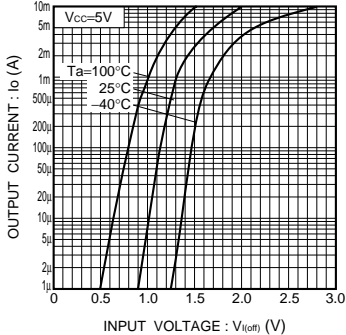


Fig.2 Output current vs. input voltage (OFF characteristics)

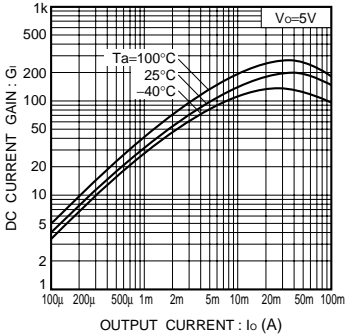


Fig.3 DC current gain vs. output current

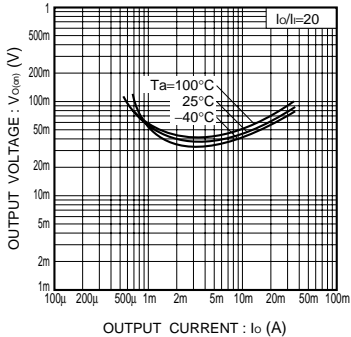


Fig.4 Output voltage vs. output current

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