

General purpose (dual digital transistors)

EMH10 / UMH10N

●Structure

Epitaxial planar type
 NPN silicon transistor
 (Built-in resistor type)

●Features

- 1) Two DTC123J chips in a EMT or UMT package.
- 2) Mounting possible with EMT3 or UMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Packaging specifications

Type	Package	Taping	
	Code	T2R	TN
	Basic ordering unit (pieces)	8000	3000
EMH10		○	—
UMH10N		—	○

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V_{CC}	50	V
Input voltage	V_{IN}	12 -5	V
Output current	I_O	100	mA
	I_C (Max.)	100	mA
Power dissipation	EMH10, UMH10N P_d	150 (TOTAL)	mW *
Junction temperature	T_J	150	°C
Storage temperature	T_{stg}	-55~+150	°C

* 120mW per element must not be exceeded.

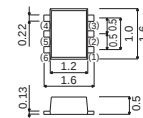
●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	$V_{I(off)}$	—	—	0.5	V	$V_{CC}=5V, I_O=100\mu A$
	$V_{I(on)}$	1.1	—	—		$V_O=0.3V, I_O=5mA$
Output voltage	$V_{O(on)}$	—	0.1	0.3	V	$I_O/I_I=5mA/0.25mA$
Input current	I_I	—	—	3.6	mA	$V_I=5V$
Output current	$I_{O(off)}$	—	—	0.5	μA	$V_{CC}=50V, V_I=0V$
DC current gain	G_I	80	—	—	—	$V_O=5V, I_O=10mA$
Transition frequency	f_T	—	250	—	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$ *
Input resistance	R_1	1.54	2.2	2.86	k Ω	—
Resistance ratio	R_2/R_1	17	21	26	—	—

* Transition frequency of the device

●Dimensions (Unit : mm)

EMH10

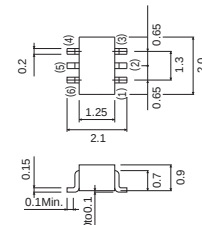


Each lead has same dimensions

Abbreviated symbol : H10

ROHM : EMT6

UMH10N

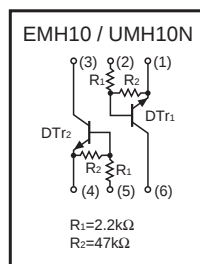


Each lead has same dimensions

ROHM : UMT6
 EIAJ : SC-88

Abbreviated symbol : H10

●Equivalent circuit



●Electrical characteristic curves

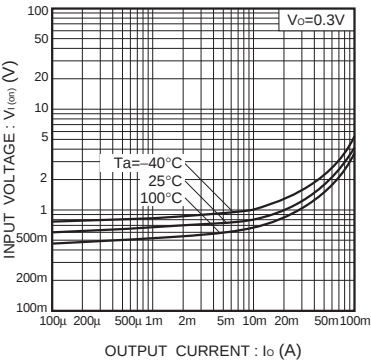


Fig.1 Input voltage vs. output current (ON characteristics)

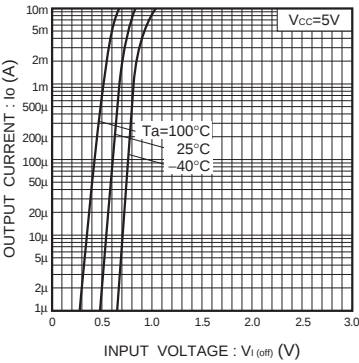


Fig.2 Output current vs. input voltage (OFF characteristics)

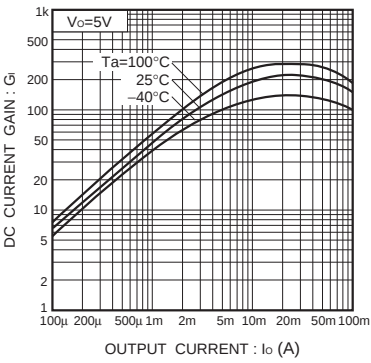


Fig.3 DC current gain vs. output current

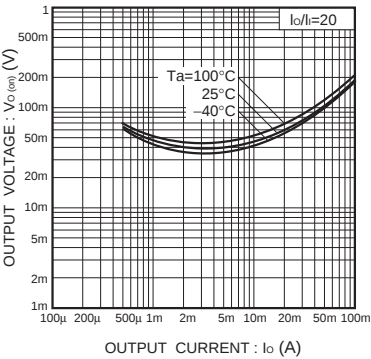


Fig.4 Output voltage vs. output current

Notes

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