

General purpose (dual digital transistors)

EMH10 / UMH10N / IMH10A

●Features

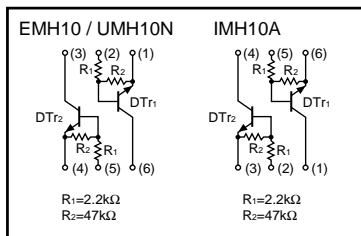
- 1) Two DTC123J chips in a EMT or UMT or SMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Structure

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

The following characteristics apply to both DT_{r1} and DT_{r2}.

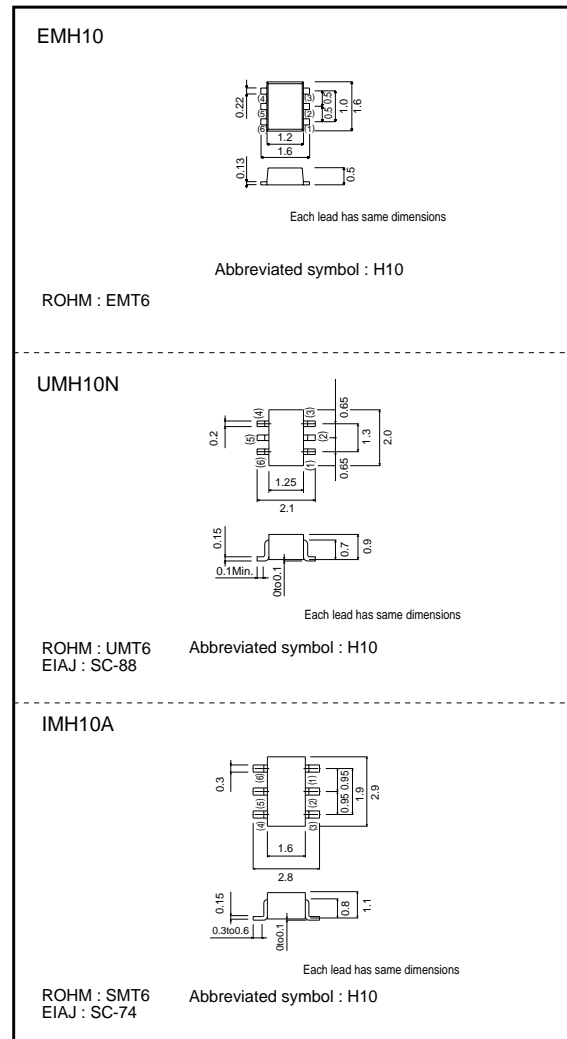
●Equivalent circuit



●Packaging specifications

Type	Package	Taping		
	Code	T2R	TN	T110
	Basic ordering unit (pieces)	8000	3000	3000
EMH10		○	-	-
UMH10N		-	○	-
IMH10A		-	-	○

●External dimensions (Units : mm)



Transistors

● Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	50	V
Input voltage	V _{IN}	12	V
		-5	
Output current	I _O	100	mA
	I _{C (Max.)}	100	mA
Power dissipation	EMH10,UMH10N	150 (TOTAL)	mW
	IMH10A	300 (TOTAL)	
Storage temperature	T _{stg}	-55~+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 _{I (off)}	-	-	0.5	V	V _{CC} =5V, I _O =100μA
	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} =10mA, I _E =-5mA, f=100MHz *
Input resistance	R ₁	1.54	2.2	2.86	kΩ	-
Resistance ratio	R ₂ /R ₁	17	21	26	-	-

* Transition frequency of the device

● Electrical characteristic curves

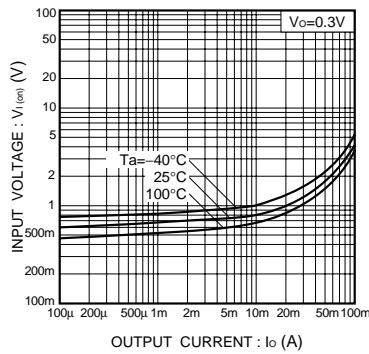


Fig.1 Input voltage vs. output current (ON characteristics)

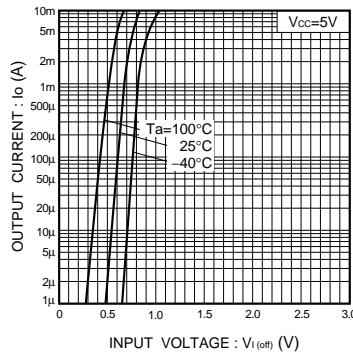


Fig.2 Output current vs. input voltage (OFF characteristics)

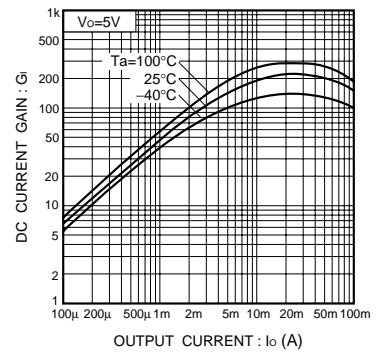


Fig.3 DC current gain vs. output current