

EMH2 / UMH2N / IMH2A

Transistors

General purpose (dual digital transistors)

EMH2 / UMH2N / IMH2A

●Features

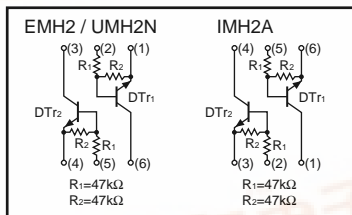
- 1) Two DTC144Es chips in a EMT or UMT or SMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.
- 4) Mounting cost and area can be cut in half.

●Structure

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

The following characteristics apply to both DTr₁ and DTr₂.

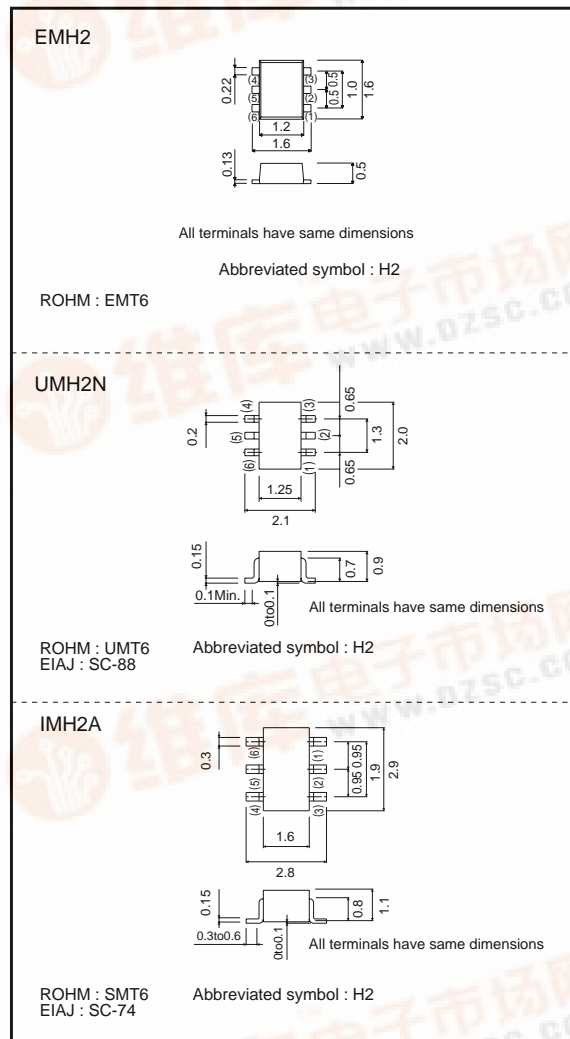
●Equivalent circuit



●Packaging specifications

Type	Package Code	Taping		
		T2R	TN	T110
EMH2		○	-	-
UMH2N		-	○	-
IMH2A		-	-	○

●External dimensions (Units : mm)



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● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V _{CC}	50	V
Input voltage	V _{IN}	40	V
		-10	
Output current	I _O	30	mA
	I _{C(Max.)}	100	
Power dissipation	EMH2,UMH2N	150 (TOTAL)	mW *1
	IMH2A	300 (TOTAL)	mW *2
Junction temperature	T _J	150	°C
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)}	3	-	-		V _O =0.3V, I _O =2mA
Output voltage	V _{O(on)}	-	0.1	0.3	V	I _O /I _I =10mA/0.5mA
Input current	I _I	-	-	0.18	mA	V _I =5V
Output current	I _{O(off)}	-	-	0.5	μA	V _{CC} =50V, V _I =0V
DC current gain	G _I	68	-	-	-	V _O =5V, I _O =5mA
Transition frequency	f _T	-	250	-	MHz	V _{CE} =10mA, I _E =-5mA, f=100MHz *
Input resistance	R _I	32.9	47	61.1	kΩ	-
Resistance ratio	R ₂ /R ₁	0.8	1	1.2	-	-

* Transition frequency of the device

● Electrical characteristic curves

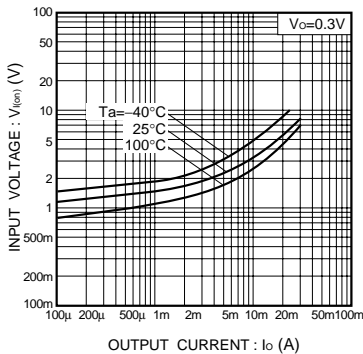


Fig.1 Input voltage vs. output current (ON characteristics)

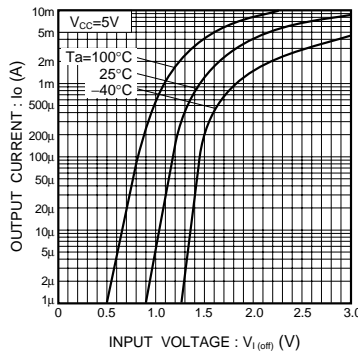


Fig.2 Output current vs. input voltage (OFF characteristics)

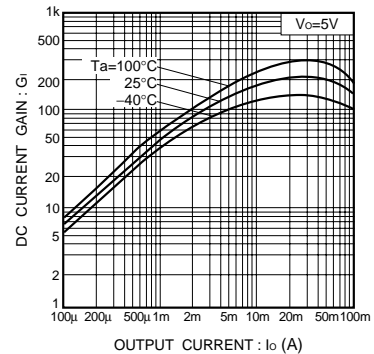


Fig.3 DC current gain vs. output current

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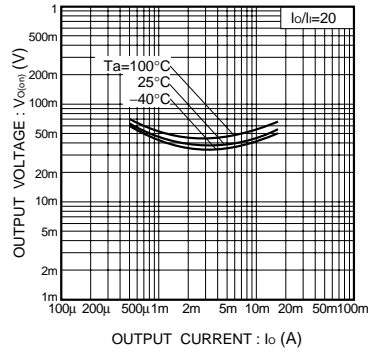


Fig.4 Output voltage vs. output current