

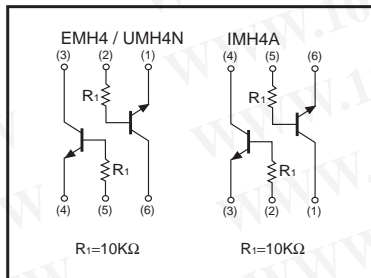
General purpose (dual digital transistors)

EMH4 / UMH4N / IMH4A

●Features

- 1) Two DTC114T chips in a EMT or UMT or SMT package.

●Equivalent circuits



●Package, marking, and packaging specifications

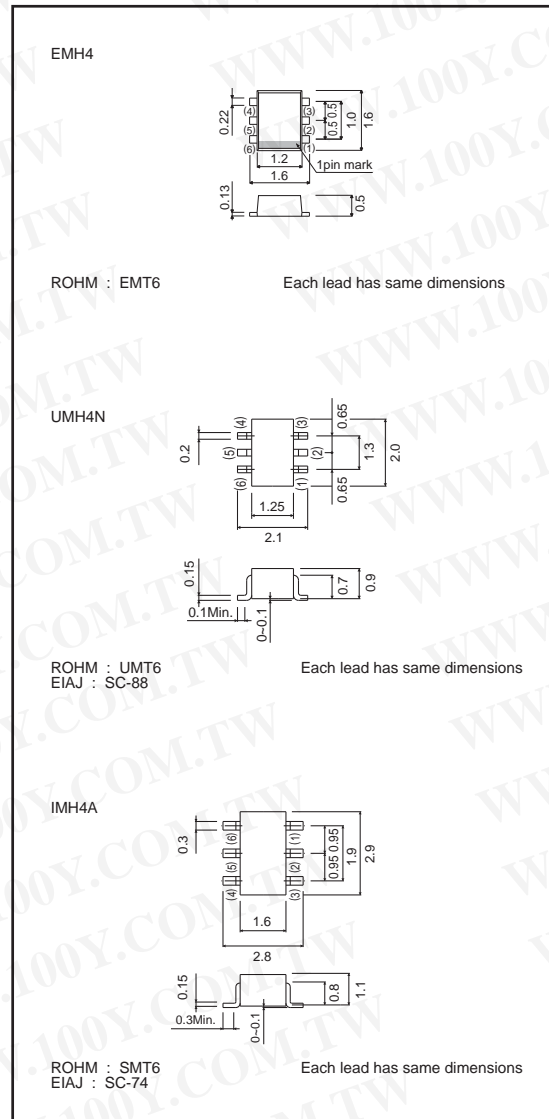
Type	EMH4	UMH4N	IMH4A
Package	EMT5	UMT6	SMT6
Marking	H4	H4	H4
Code	T2R	TN	T110
Basic ordering unit (pieces)	8000	3000	3000

●Absolute maximum ratings ($T_a = 25^\circ\text{C}$)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V_{CB0}	50	V
Collector-emitter voltage	V_{CE0}	50	V
Emitter-base voltage	V_{EB0}	5	V
Collector current	I_c	100	mA
Power dissipation	EMH4 / UMH4N IMH4A	150(TOTAL)	mW ^{*1}
		300(TOTAL)	mW ^{*2}
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 to +150	$^\circ\text{C}$

^{*1} 120mW per element must not be exceeded.
^{*2} 200mW per element must not be exceeded.

●External dimensions (Unit : mm)



Transistors

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV_{CBO}	50	—	—	V	$I_C=50\mu A$
Collector-emitter breakdown voltage	BV_{CEO}	50	—	—	V	$I_C=1mA$
Emitter-base breakdown voltage	BV_{EBO}	5	—	—	V	$I_E=50\mu A$
Collector cutoff current	I_{CBO}	—	—	0.5	μA	$V_{CB}=50V$
Emitter cutoff current	I_{EBO}	—	—	0.5	μA	$V_{EB}=4V$
Collector-emitter saturation voltage	$V_{CE(sat)}$	—	—	0.3	V	$I_C/I_B=10mA/1mA$
DC current transfer ratio	h_{FE}	100	250	600	—	$V_{CE}=5V, I_C=1mA$
Transition frequency	f_T	—	250	—	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$ *
Input resistance	R_i	7	10	13	$k\Omega$	—

*Transition frequency of the device.

●Electrical characteristics curves

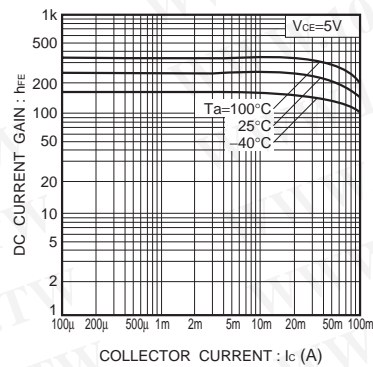


Fig.1 DC current gain vs. collector current

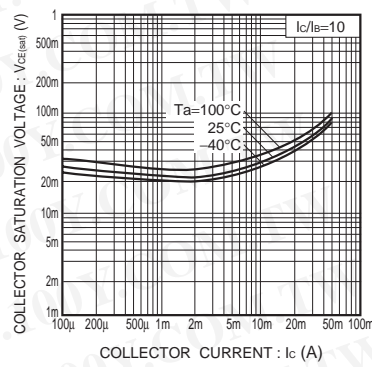


Fig.2 Collector-emitter saturation voltage vs. collector current

Appendix

Notes

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