

General purpose (dual digital transistors)

EMH3 / UMH3N / IMH3A

●Features

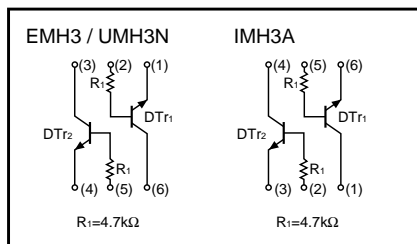
- 1) Two DTAK13Ts chips in a EMT or UMT or SMT package.
- 2) Mounting possible with EMT3 or UMT3 or SMT3 automatic mounting machines.
- 3) Transistor elements are independent, eliminating interference.

●Structure

Epitaxial planar type
NPN silicon transistor

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
EMH3		○	-	-
UMH3N		-	○	-
IMH3A		-	-	○

●External dimensions (Units : mm)

EMH3

Each lead has same dimensions

Abbreviated symbol : H3

ROHM : EMT6

UMH3N

Each lead has same dimensions

Abbreviated symbol : H3

ROHM : UMT6
EIAJ : SC-88

IMH3A

Each lead has same dimensions

Abbreviated symbol : H3

ROHM : SMT6
EIAJ : SC-74

Transistors

● Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V _{CBO}	50	V
Collector-emitter voltage	V _{CEO}	50	V
Emitter-base voltage	V _{EBO}	5	V
Collector current	I _c	100	mA
Collector power dissipation	EMH3,UMH3N	150 (TOTAL)	mW *1
	IMH3A	300 (TOTAL)	
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
Collector-base breakdown voltage	BV _{CBO}	50	-	-	V	I _c =50μA
Collector-emitter breakdown voltage	BV _{CEO}	50	-	-	V	I _c =1mA
Emitter-base breakdown voltage	BV _{EBO}	5	-	-	V	I _E =50μA
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 =5mA/0.25mA
DC current transfer ratio	h _{FE}	100	250	600	-	V _{CE} =5V, I _c =1mA
Transition frequency	f _T	-	250	-	MHz	V _{CE} =10mA, I _E =-5mA, f=100MHz *
Input resistance	R _i	3.29	4.7	6.11	kΩ	-

* Transition frequency of the device

● Electrical characteristic curves

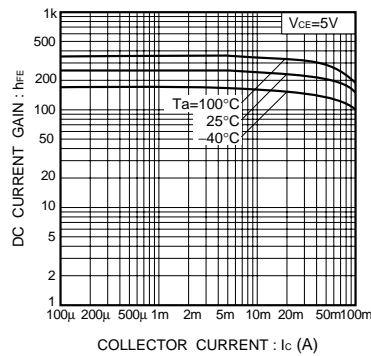


Fig.1 DC current gain vs. collector current

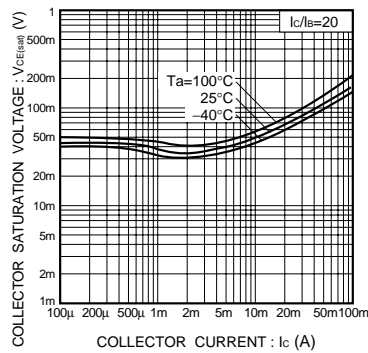


Fig.2 Collector-emitter saturation voltage vs. collector current