

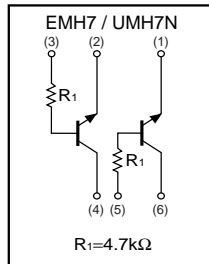
# General purpose (dual digital transistors)

## EMH7 / UMH7N

### ●Features

- Two DTC143T chips in a EMT or UMT package.

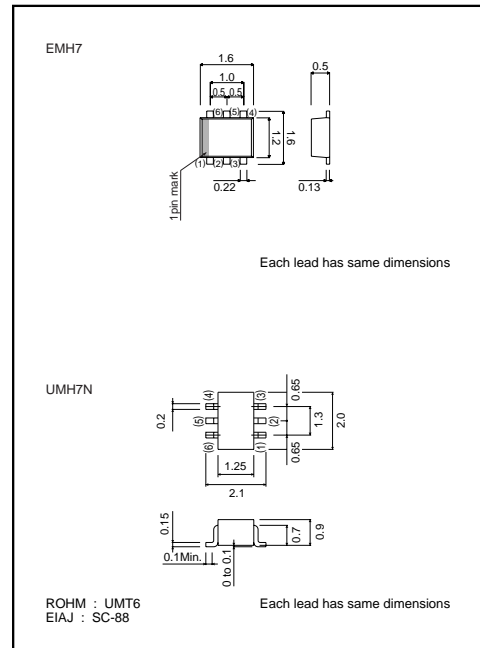
### ●Equivalent circuits



### ●Package, marking, and packaging specifications

Type	EMH7	UMH7N
Package	EMT6	UMT6
Marking	H7	H7
Code	TR	TR
Basic ordering unit (pieces)	8000	3000

### ●External dimensions (Unit : mm)



### ●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
Power dissipation	$P_d$	150(TOTAL)	mW *
Junction temperature	$T_j$	150	°C
Storage temperature	$T_{stg}$	-55 to +150	°C

\* 120mW per element must not be exceeded.

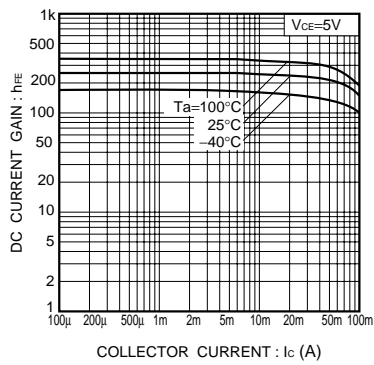
### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	$BV_{CBO}$	50	–	–	V	$I_C=50\mu A$
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	$\mu A$	$V_{CB}=50V$
Emitter cutoff current	$I_{EBO}$	–	–	0.5	$\mu A$	$V_{EB}=4V$
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	$V_{CE}=10V, I_E=-5mA, f=100MHz$ *
Input resistance	$R_1$	3.29	4.7	6.11	$k\Omega$	–

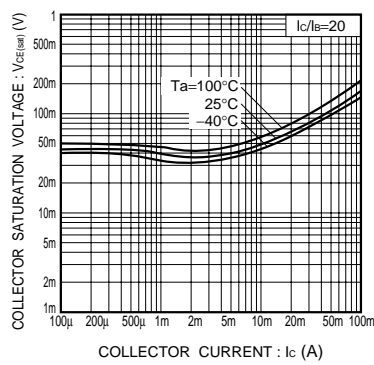
\*Transition frequency of the device.

Transistors

●Electrical characteristics curves



COLLECTOR CURRENT :  $I_C$  (A)  
Fig.1 DC current gain vs. collector current



COLLECTOR CURRENT :  $I_C$  (A)  
Fig.2 Collector-emitter saturation voltage vs. collector current

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