

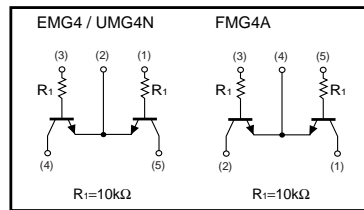
# General purpose (dual digital transistors)

## EMG4 / UMG4N / FMG4A

●Features

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

●Equivalent circuits



●Package, marking, and packaging specifications

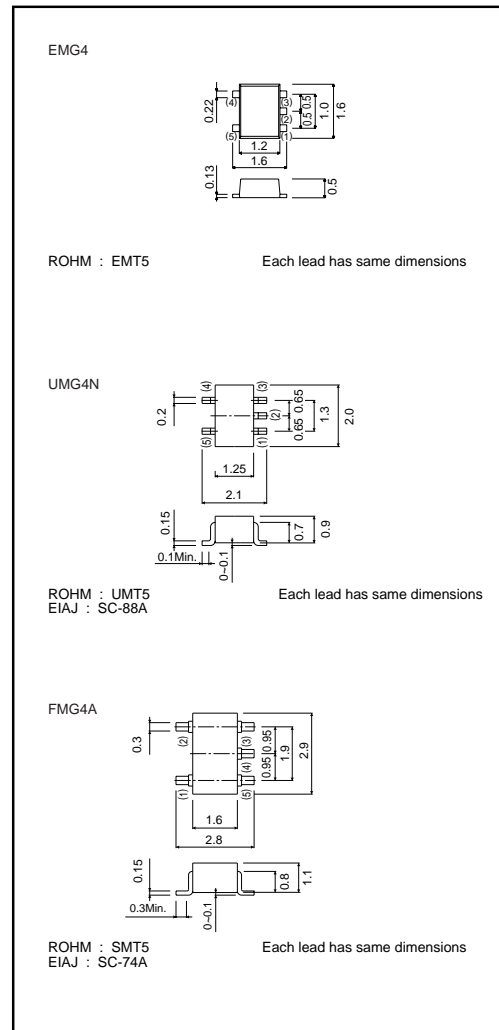
Type	EMG4	UMG4N	FMG4A
Package	EMT5	UMT5	SMT5
Marking	G4	G4	G4
Code	T2R	TR	T148
Basic ordering unit (pieces)	8000	3000	3000

●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>ceo</sub>	50	V
Collector-emitter voltage	V <sub>ceo</sub>	50	V
Emitter-base voltage	V <sub>ebo</sub>	5	V
Collector current	I <sub>c</sub>	100	mA
Power dissipation	Pd	150(TOTAL)	mW *1
		300(TOTAL)	mW *2
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°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 <sub>CB0</sub>	50	–	–	V	I <sub>c</sub> =50μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	50	–	–	V	I <sub>c</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	5	–	–	V	I <sub>e</sub> =50μA
Collector cutoff current	I <sub>cBO</sub>	–	–	0.5	μA	V <sub>CB</sub> =50V
Emitter cutoff current	I <sub>eBO</sub>	–	–	0.5	μA	V <sub>EB</sub> =4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	–	–	0.3	V	I <sub>c</sub> /I <sub>b</sub> =10mA/1mA
DC current transfer ratio	h <sub>FE</sub>	100	250	600	–	V <sub>CE</sub> =5V, I <sub>c</sub> =1mA
Transition frequency	f <sub>T</sub>	–	250	–	MHz	V <sub>CE</sub> =10V, I <sub>e</sub> =–5mA, f=100MHz *
Input resistance	R <sub>1</sub>	7	10	13	kΩ	–

\*Transition frequency of the device.

●Electrical characteristics curves

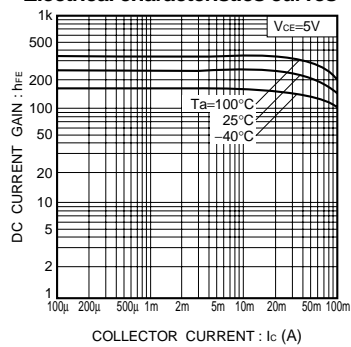


Fig.1 DC current gain vs. collector current

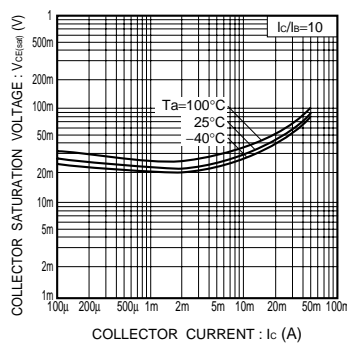


Fig.2 Collector-emitter saturation voltage vs. collector current

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