

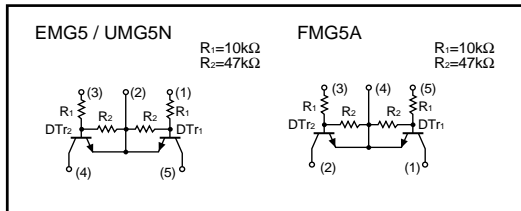
# Emitter common (dual digital transistors)

## EMG5 / UMG5N / FMG5A

●Features

- 1) Two DTC114Y chips in a EMT or UMT or SMT package.

●Equivalent circuit

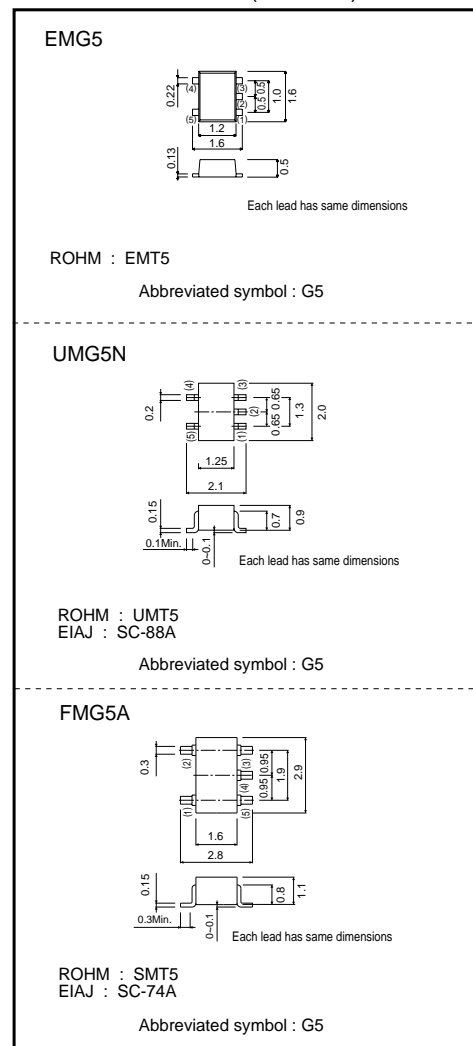


●Absolute maximum ratings (Ta = 25°C)

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	50	V
Input voltage	V <sub>IN</sub>	40	V
		-6	
Output current	I <sub>o</sub>	70	mA
	I <sub>c (Max.)</sub>	100	
Power dissipation	EMG5, UMG5N	Pd 150 (TOTAL)	mW *1
	FMG5A	Pd 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
Input voltage	$V_{I(off)}$	–	–	0.3	V	$V_{CC}=5V, I_o=100\mu A$
	$V_{I(on)}$	1.4	–	–		$V_o=0.3V, I_o=1mA$
Output voltage	$V_{O(on)}$	–	0.1	0.3	V	$I_o=5mA, I_i=0.25mA$
Input current	$I_i$	–	–	0.88	mA	$V_i=5V$
Output current	$I_{O(off)}$	–	–	0.5	$\mu A$	$V_{CC}=50V, V_i=0V$
DC current gain	$G_i$	68	–	–	–	$V_o=5V, I_o=5mA$
Transition frequency	$f_T$	–	250	–	MHz	$V_{CE}=10V, I_E=-5mA, f=100MHz$ *
Input resistance	$R_i$	7	10	13	k $\Omega$	–
Resistance ratio	$R_2/R_1$	3.7	4.7	5.7	–	–

\* Transition frequency of the device

●Packaging specifications

Type	Package	Taping		
	Code	T2R	TR	T148
	Basic ordering unit (pieces)	8000	3000	3000
EMG5	○	–	–	–
UMG5N	–	○	–	–
FMG5A	–	–	–	○

●Electrical characteristics curves

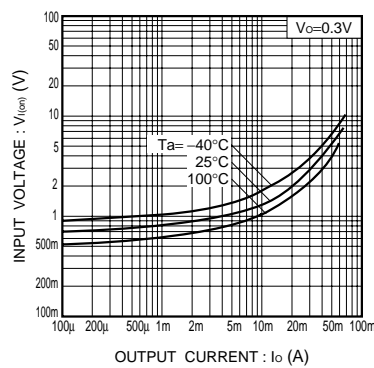


Fig.1 Input voltage vs. output current (ON characteristics)

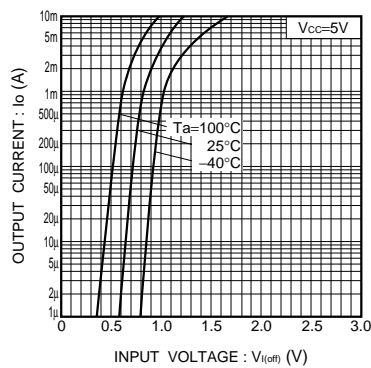


Fig.2 Output current vs. input voltage (OFF characteristics)

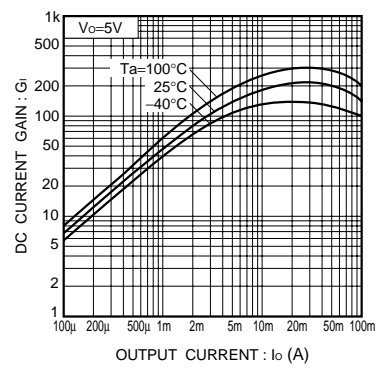


Fig.3 DC current gain vs. output current

Transistors

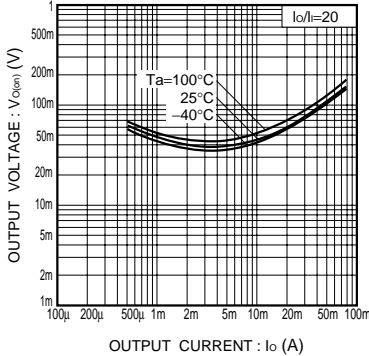


Fig.4 Output voltage vs. output current

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