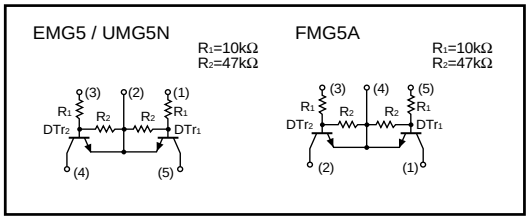
Emitter common (dual digital transistors)

EMG5 / UMG5N / FMG5A

●Features

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

●Equivalent circuit



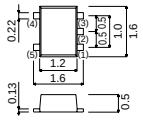
●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit
Supply voltage		V_{CC}	50	V
Input voltage		V_{IN}	40	V
			−6	
Output current		I_O	70	mA
		$I_{C\ (Max.)}$	100	
Power dissipation	EMG5, UMG5N	Pd	150 (TOTAL)	mW ∗1
	FMG5A		300 (TOTAL)	mW ∗2
Junction temperature		Tj	150	°C
Storage temperature		Tstg	−55 to +150	°C

∗1 120mW per element must not be exceeded.
∗2 200mW per element must not be exceeded.

●External dimensions (Unit : mm)

EMG5

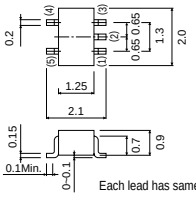


Each lead has same dimensions

ROHM : EMT5

Abbreviated symbol : G5

UMG5N

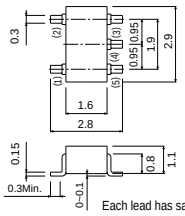


Each lead has same dimensions

ROHM : UMT5
EIAJ : SC-88A

Abbreviated symbol : G5

FMG5A



Each lead has same dimensions

ROHM : SMT5
EIAJ : SC-74A

Abbreviated symbol : G5

●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=100µA
	$V_{I\,(on)}$	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	µA	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_1	7	10	13	kΩ	–
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

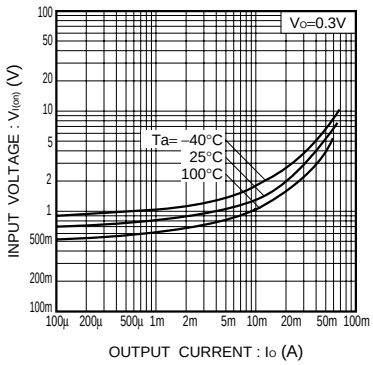


Fig.1 Input voltage vs. output current (ON characteristics)

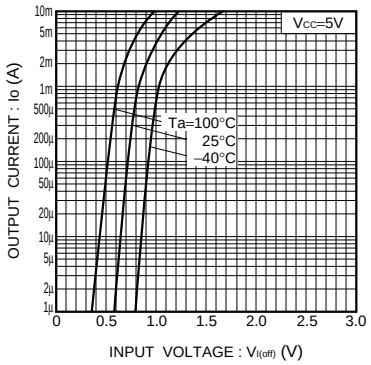


Fig.2 Output current vs. input voltage (OFF characteristics)

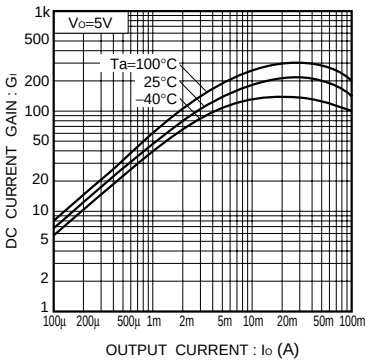


Fig.3 DC current gain vs. output current

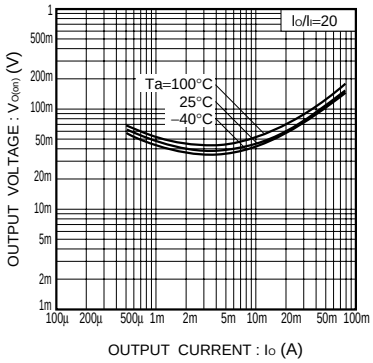


Fig.4 Output voltage vs. output current

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