

# Emitter common (dual digital transistors)

## UMA2N / FMA2A

●Features

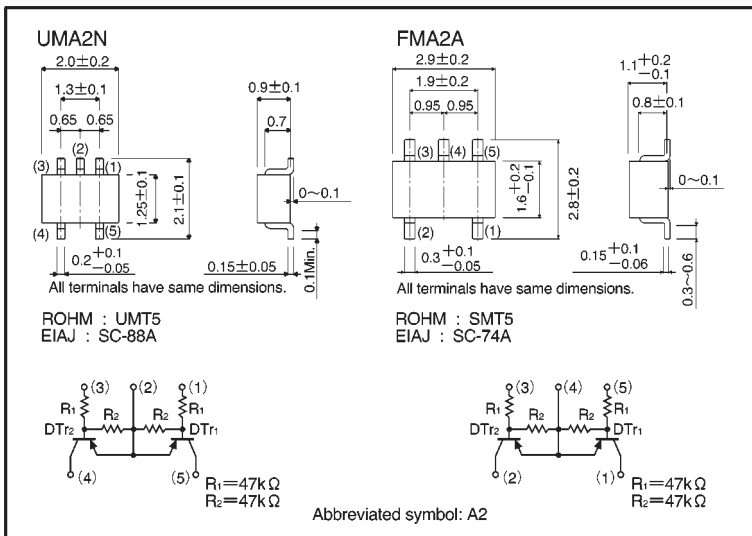
- 1) Two DTA144E transistors in a single UMT and a SMT package.
- 2) Mounting cost and area can be cut in half.

●Structure

Dual PNP digital transistor (each with two built in resistors)

The following characteristics apply to both DT<sub>1</sub> and DT<sub>2</sub>.

●External dimensions (Units:mm)



●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
		10	
Output current	I <sub>o</sub>	-30	mA
	I <sub>C(Max.)</sub>	-100	
Power dissipation	UMA2N	150 (TOTAL)	mW
	FMA2A	300 (TOTAL)	
Junction temperature	T <sub>j</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-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
Input voltage	$V_{I(off)}$	—	—	-0.5	V	$V_{CC} = -5V, I_o = -100 \mu A$
	$V_{I(on)}$	-3	—	—		$V_o = -0.3V, I_o = -5mA$
Output voltage	$V_{O(on)}$	—	-0.1	-0.3	V	$I_o/I_i = -5mA/0.25mA$
Input current	$I_i$	—	—	-0.18	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	—	—	—	$V_o = -5V, I_o = -10mA$
Transition frequency	$f_T$	—	250	—	MHz	$V_{CE} = 10mA, I_E = -5mA, f = 100MHz^*$
Input resistance	$R_i$	32.9	47	61.1	k $\Omega$	—
Resistance ratio	$R_2/R_1$	0.8	1	1.2	—	—

\* Transition frequency of the device

●Packaging specifications

Part No.	Packaging type	Taping	
	Code	TR	T148
	Basic ordering unit (pieces)	3000	3000
UMA2N	○	—	—
FMA2A	—	○	—

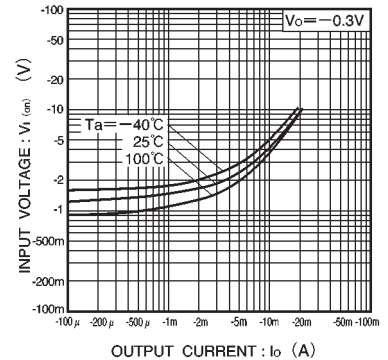


Fig.1 Input voltage vs. output current (ON characteristics)

●Electrical characteristic curves

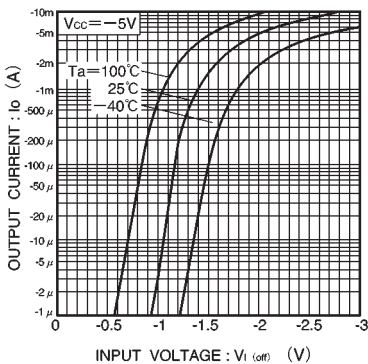


Fig.2 Output current vs. input voltage (OFF characteristics)

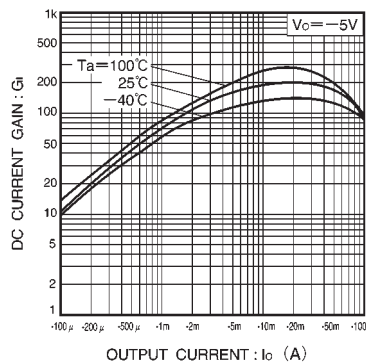


Fig.3 DC current gain vs. output current

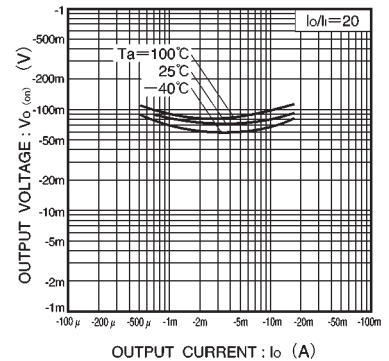


Fig.4 Output voltage vs. output current