Emitter common (dual digital transistors)

UMA2N / FMA2A

●Features

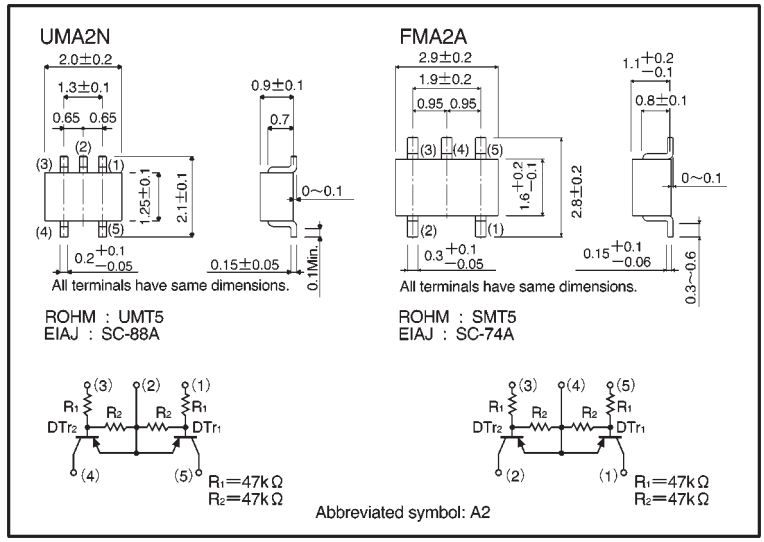
1) Two DTA144E transistors in a single UMT and a SMT package.
2) Mounting cost and area can be cut in half.

●Structure

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

The following characteristics apply to both DTr_1 and DTr_2.

●External dimensions (Units:mm)



●Absolute maximum ratings (Ta = 25°C)

Parameter		Symbol	Limits	Unit	
Supply voltage		V_{CC}	−50	V	
Input voltage		V_{IN}	−40	V	
			10		
Output current		I_O	−30	mA	
		$I_{C(Max.)}$	−100		
Power dissipation	UMA2N	Pd	150 (TOTAL)	mW	∗1
	FMA2A		300 (TOTAL)		∗2
Junction temperature		Tj	150	℃	
Storage temperature		Tstg	−55~+150	℃	

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

(SPEC-A144E)

●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 μA
	$V_{I(on)}$	−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	μA	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_1	32.9	47	61.1	kΩ	—
Resistance ratio	R_2/R_1	0.8	1	1.2	—	—

* Transition frequency of the device

●Packaging specifications

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

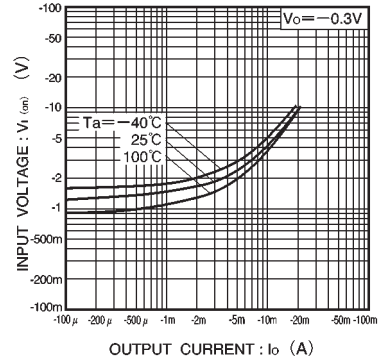


Fig.1 Input voltage vs. output current (ON characteristics)

●Electrical characteristic curves

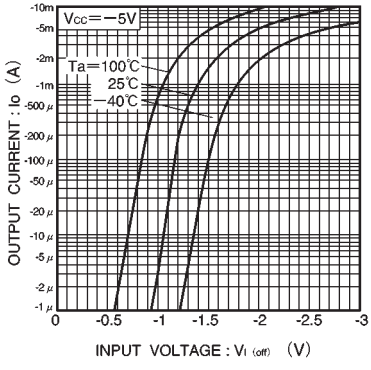


Fig.2 Output current vs. input voltage (OFF characteristics)

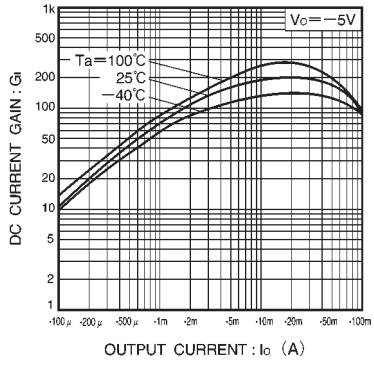


Fig.3 DC current gain vs. output current

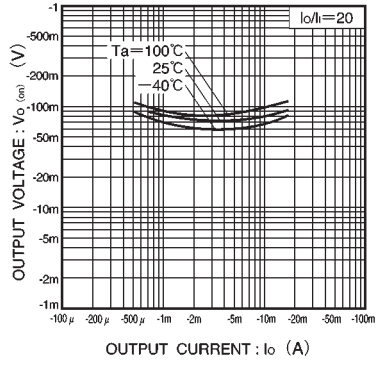


Fig.4 Output voltage vs. output current