

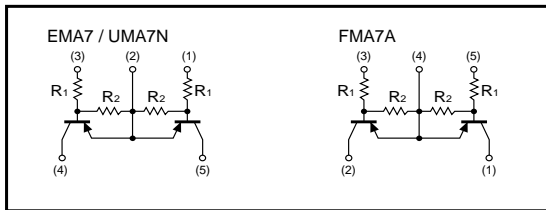
# Emitter common (dual digital transistors)

## EMA7 / UMA7N / FMA7A

**●Features**

- 1) Two DTA143X chips in a EMT or UMT or SMT package.

**●Equivalent circuit**



**●Package, marking, and packaging specifications**

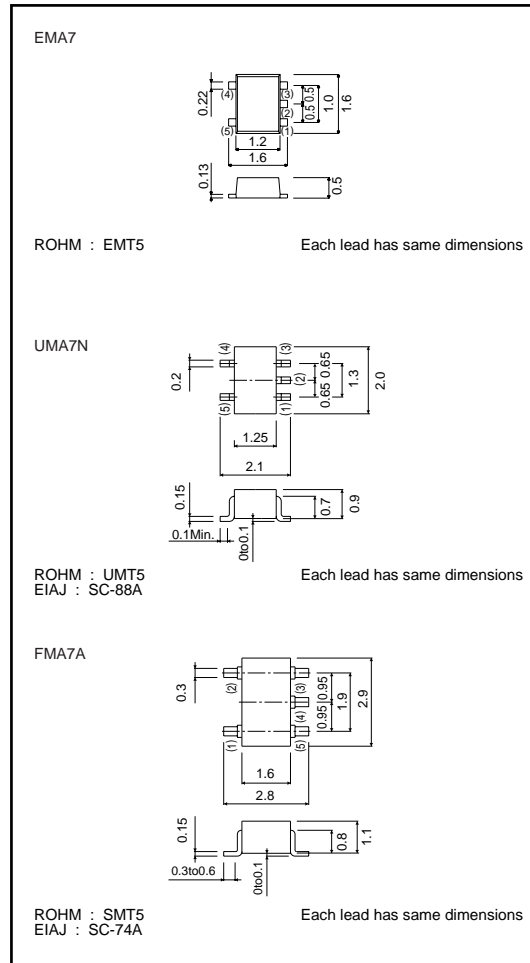
Type	EMA7	UMA7N	FMA7A
Package	EMT5	UMT5	SMT5
Marking	A7	A7	A7
Code	T2R	TR	T148
Basic ordering unit (pieces)	8000	3000	3000

**●Absolute maximum ratings (Ta = 25°C)**

Parameter	Symbol	Limits	Unit
Supply voltage	V <sub>CC</sub>	-50	V
Input voltage	V <sub>IN</sub>	-20 7	V
Output current	I <sub>O</sub>	-100	mA
Power dissipation	EMA7 / UMA7N	150(TOTAL)	mW *1
	FMA7A	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	$V_{CC}=-5V, I_o=-100\mu A$
	$V_{i(on)}$	-2.5	-	-		$V_o=-0.3V, I_o=-20mA$
Output voltage	$V_{o(on)}$	-	-0.1	-0.3	V	$I_o/I_i=-10mA/-0.5mA$
Input current	$I_i$	-	-	-1.8	mA	$V_i=-5V$
Output current	$I_o(off)$	-	-	-0.5	$\mu A$	$V_{CC}=-50V, V_i=0V$
DC current gain	$G_i$	30	-	-	-	$V_o=-5V, I_o=-10mA$
Transition frequency	$f_T$	-	250	-	MHz	$V_{CE}=-10V, I_E=5mA, f=100MHz$ *
Input resistance	$R_1$	3.29	4.7	6.11	$k\Omega$	-
Resistance ratio	$R_2/R_1$	1.7	2.1	2.6	-	-

\*Transition frequency of the device.

●Electrical characteristics curves

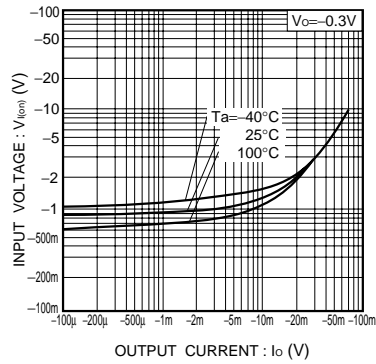


Fig.1 Input voltage vs. output current (ON characteristics)

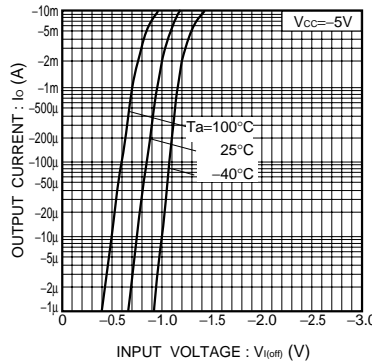


Fig.2 Output current vs. input voltage (OFF characteristics)

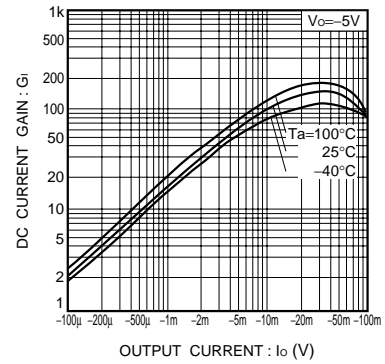


Fig.3 DC current gain vs. output current

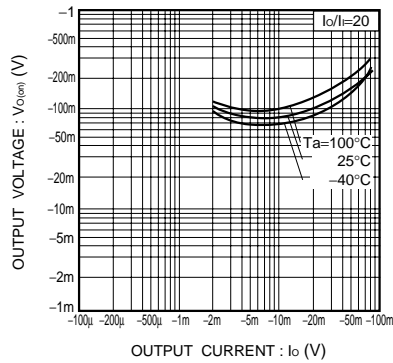


Fig.4 Output voltage vs. output current

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