

Emitter common (dual digital transistors)

EMA2 / UMA2N / FMA2A

●Features

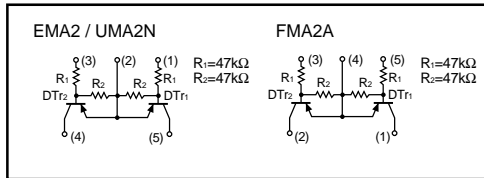
- 1) Two DTA144E transistors in a EMT or UMT or SMT package.
- 2) Mounting cost and area can be cut in half.

●Structure

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

The following characteristics apply to both DT11 and DT12.

●Equivalent circuit



●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	EMA2, UMA2N	150 (TOTAL)	*1 mW
	FMA2A	300 (TOTAL)	*2 mW
Junction temperature	T _J	150	°C
Storage temperature	T _{stg}	-55 to +150	°C

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

●External dimensions (Unit : mm)

EMA2

Each lead has same dimensions

ROHM : EMT5
Abbreviated symbol : A2

UMA2N

Each lead has same dimensions

ROHM : UMT5
EIAJ : SC-88A
Abbreviated symbol : A2

FMA2A

Each lead has same dimensions

ROHM : SMT5
EIAJ : SC-74A
Abbreviated symbol : A2

Transistors

●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	-	-		$V_{O}=-0.3V, I_{O}=-2mA$
Output voltage	$V_{O(on)}$	-	-0.1	-0.3	V	$I_{O}=-10mA/I_{I}=-0.5mA$
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	-	-	-	$V_{O}=-5V, I_{O}=-5mA$
Transition frequency	f_{r}	-	250	-	MHz	$V_{CE}=-10V, I_{E}=5mA, f=100MHz$ *
Input resistance	R_{I}	32.9	47	61.1	k Ω	-
Resistance ratio	R_{2}/R_{1}	0.8	1	1.2	-	-

* Transition frequency of the device

●Packaging specifications

Type	Package	Taping		
	Code	T2R	TR	T148
	Basic ordering unit (pieces)	8000	3000	3000
EMA2	○	—	—	—
UMA2N	—	○	—	—
FMA2A	—	—	—	○

●Electrical characteristic curves

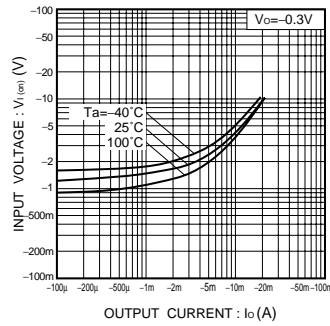


Fig.1 Input voltage vs. output current (ON characteristics)

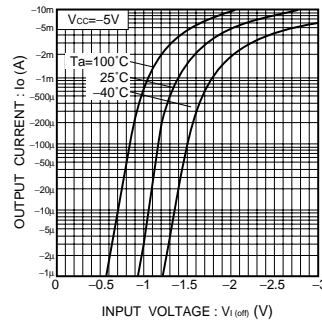


Fig.2 Output current vs. input voltage (OFF characteristics)

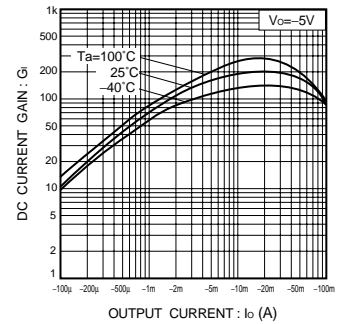


Fig.3 DC current gain vs. output current

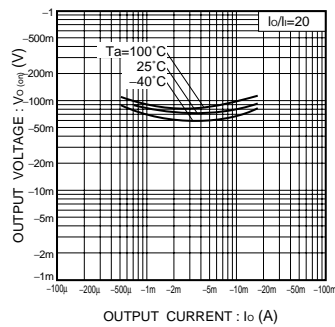


Fig.4 Output voltage vs. output current

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