



**THE DATASHEET OF  
IMD1A**



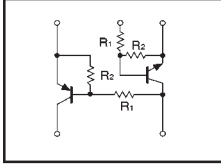
# Power management (dual digital transistors)

## FMC6A

### ●Features

- 1) Both the DTA115E and DTC115E chips in a SMT package.

### ●Circuit diagram



### ●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>C</sub>	100	mA
	I <sub>O</sub>	20	mA
Power dissipation	P <sub>d</sub>	300 (TOTAL)	mW
Storage temperature	T <sub>stg</sub>	-55~+150	°C

PNP type negative symbols have been omitted.

### ●Package, marking, and packaging specifications

Part No.	FMC6A
Package	SMT5
Marking	C6
Code	T148
Basic ordering unit (pieces)	3000

### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V <sub>I(off)</sub>	—	—	0.5	V	V <sub>CC</sub> =5/-5V, I <sub>O</sub> =100/-100 μA V <sub>O</sub> =0.3/-0.3V, I <sub>C</sub> =1/-1mA
	V <sub>I(on)</sub>	3	—	—		
Output voltage	V <sub>O(on)</sub>	—	0.1	0.3	V	I <sub>C</sub> =5/-5mA, I <sub>I</sub> =0.25/-0.25mA
Input current	I <sub>I</sub>	—	—	0.15	mA	V <sub>I</sub> =5/-5V
Output current	I <sub>O(off)</sub>	—	—	0.5	μA	V <sub>CC</sub> =50/-50V
DC current gain	G <sub>I</sub>	82	—	—	—	I <sub>O</sub> =5/-5mA, V <sub>O</sub> =5/-5V
Transition frequency	f <sub>T</sub>	—	250	—	MHz	V <sub>CE</sub> =10V/-10V, I <sub>E</sub> =-5mA/5mA, f=100MHz *
Input resistance	R <sub>I</sub>	70	100	130	kΩ	—
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>	0.8	1	1.2	—	—

\* Transition frequency of mounted transistor. PNP type negative symbols have been omitted.

(94S-830-AC115E)

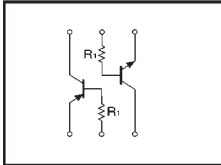
# Power management (dual digital transistors)

## IMD1A

### ●Features

- 1) Both the DTA124T and DTC124T chips in a SMT package.

### ●Circuit diagram



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

Parameter	Symbol	Limits	Unit
Collector-base voltage	V <sub>CE0</sub>	50	V
Collector-emitter voltage	V <sub>CEO</sub>	50	V
Emitter-base voltage	V <sub>EB0</sub>	5	V
Collector current	I <sub>C</sub>	100	mA
Collector power dissipation	P <sub>C</sub>	300 (TOTAL)	mW *
Junction temperature	T <sub>J</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\* 200mW per element must not be exceeded. PNP type negative symbols have been omitted.

### ●Package, marking, and packaging specifications

Type	IMD1A
Package	SMT6
Marking	D1
Code	T108
Basic ordering unit (pieces)	3000

### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-base breakdown voltage	BV <sub>CE0</sub>	50	—	—	V	I <sub>C</sub> =50 μA
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	50	—	—	V	I <sub>C</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	5	—	—	V	I <sub>E</sub> =50 μA
Collector cutoff current	I <sub>CBO</sub>	—	—	0.5	μA	V <sub>CE</sub> =50V
Emitter cutoff current	I <sub>EB0</sub>	—	—	0.5	μA	V <sub>EB</sub> =4V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	—	—	0.3	V	I <sub>C</sub> /I <sub>E</sub> =5mA/0.5mA
DC current transfer ratio	h <sub>FE</sub>	100	250	600	—	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA
Transition frequency	f <sub>T</sub>	—	250	—	MHz	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz *
Input resistance	R <sub>I</sub>	15.4	22	28.6	kΩ	—

\* Transition frequency of mounted transistor. PNP type negative symbols have been omitted.

(96-458-AC124T)

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