

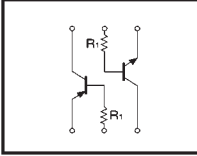
# Power management (dual digital transistors)

## IMD8A

### ●Features

- 1) Both the DTA144T chip and DTC144T chip 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>CE0</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 *
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

Part No.	IMD8A
Package	SMT6
Marking	D8
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>CE0</sub>	50	—	—	V	I <sub>C</sub> =1mA
Emitter-base breakdown voltage	BV <sub>EB0</sub>	50	—	—	V	I <sub>E</sub> =50 μA
Collector cutoff current	I <sub>CB0</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> =5mA, I <sub>E</sub> =0.5mA
DC current transfer ratio	h <sub>FE</sub>	100	250	600	—	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA
Input resistance	R <sub>1</sub>	32.9	47	61.1	kΩ	—

PNP type negative symbols have been omitted.

(94S-902-AC144T)

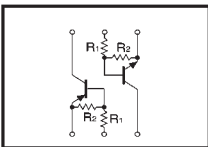
# Power management (dual digital transistors for inverter drive)

## IMD9A

### ●Features

- 1) Both the DTA114Y chip and DTC114Y chip 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>	-6~+40	V
Output current	I <sub>O</sub>	70	mA
Collector current	I <sub>C(Max.)</sub>	100	mA
Power dissipation	P <sub>d</sub>	300 (TOTAL)	mW *
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

Part No.	IMD9A
Package	SMT6
Marking	D9
Code	T108
Basic ordering unit (pieces)	3000

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

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V <sub>I(off)</sub>	—	—	0.3	V	V <sub>CC</sub> =5V, I <sub>O</sub> =100 μA
	V <sub>I(on)</sub>	1.4	—	—	—	V <sub>O</sub> =0.3V, I <sub>I</sub> =1mA
Output voltage	V <sub>O(on)</sub>	—	0.1	0.3	V	I <sub>O</sub> =5mA, I <sub>I</sub> =0.25mA
Input current	I <sub>I</sub>	—	—	0.88	mA	V <sub>I</sub> =5V
Output current	I <sub>O(off)</sub>	—	—	0.5	μA	V <sub>CC</sub> =50V, V <sub>I</sub> =0V
DC current gain	G <sub>I</sub>	68	—	—	—	I <sub>O</sub> =5mA, V <sub>O</sub> =5V
Input resistance	R <sub>1</sub>	7	10	13	kΩ	—
Resistance ratio	R <sub>2</sub> /R <sub>1</sub>	3.7	4.7	5.7	—	—

PNP type negative symbols have been omitted.

(94S-904-AC114Y)