

Transistors

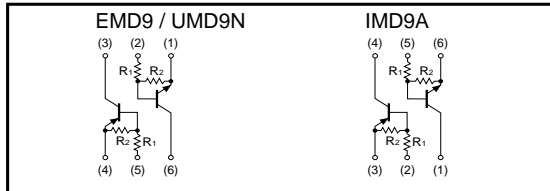
# Digital Transistor (Dual Digital Transistors for Inverter Drive)

## EMD9 / UMD9N / IMD9A

●Features

1) DTA114Y and DTC114Y transistors are built-in a EMT or UMT or SMT package.

●Equivalent circuit



●Package, marking, and packaging specifications

Type	EMD9	UMD9N	IMD9A
Package	EMT6	UMT6	SMT6
Marking	D9	D9	D9
Code	T2R	TR	T108
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>	-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>	150(TOTAL)	mW *1
		300(TOTAL)	mW *2
Storage temperature	T <sub>stg</sub>	-55~+150	°C

\*1 120mW per element must not be exceeded. PNP type negative symbols have been omitted.  
\*2 200mW per element must not be exceeded. PNP type negative symbols have been omitted.

●External dimensions (Units : mm)

**EMD9**

Each lead has same dimensions

ROHM : EMT6  
Abbreviated symbol : D9

**UMD9N**

Each lead has same dimensions

ROHM : UMT6  
EIAJ : SC-88

Abbreviated symbol : D9

**IMD9A**

Each lead has same dimensions

ROHM : SMT6  
EIAJ : SC-74

Abbreviated symbol : D9

●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Input voltage	V <sub>I(eff)</sub>	-	-	0.3	V	V <sub>CC</sub> =5V, I <sub>O</sub> =100mA
	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(eff)</sub>	-	-	0.5	mA	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.



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