

## Digital Transistors (Built-in Resistors)

### • Equivalent Circuit

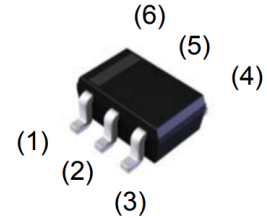
DIGITAL TRANSISTOR (NPN)

### FEATURES

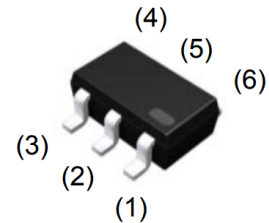
- Two DTC114T chips in a UMT or SMT package.
- Mounting possible with UMT3 or SMT3 automatic mounting machines.
- Transistor elements are independent, eliminating interference.
- Mounting cost and area can be cut in half.

### Inner circuit

SOT23-6L



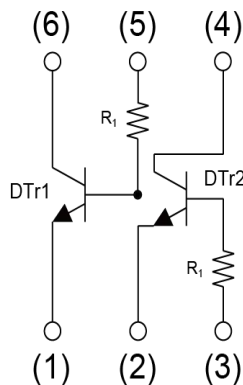
UMH8N



IMH8A

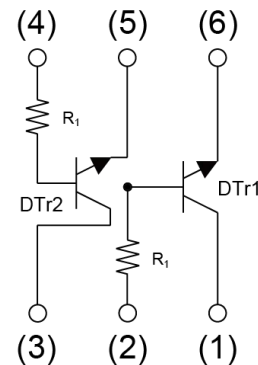
UMH8N

- (1) DTr1 Emitter
- (2) DTr2 Emitter
- (3) DTr2 Base
- (4) DTr2 Collector
- (5) DTr1 Base
- (6) DTr1 Collector



IMH8A

- (1) DTr1 Collector
- (2) DTr1 Base
- (3) DTr2 Collector
- (4) DTr2 Base
- (5) DTr2 Emitter
- (6) DTr1 Emitter





**CHINA BASE**  
INTERNATIONAL

**SOT-23-6L**



**UMH8N/IMH8A**

www.china-base.com.hk

**ORDERING INFORMATION**

Part Number	MARKING	Package	Packing Method	Pack Quantity
UMH8N	H8	SOT-23-6L	Reel	3000pcs/Reel
IMH8A	H8	SOT-23-6L	Reel	3000pcs/Reel

**MAXIMUM RATINGS(Ta=25°C unless otherwise noted)**

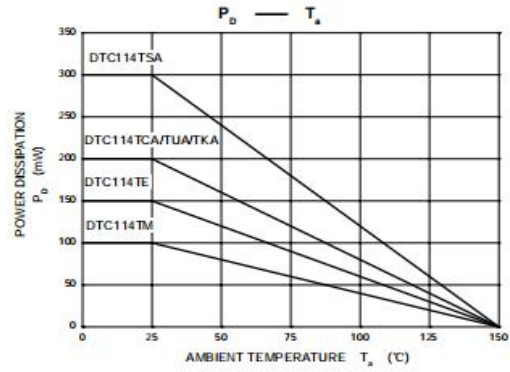
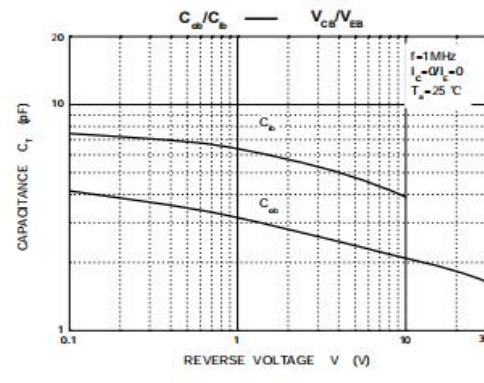
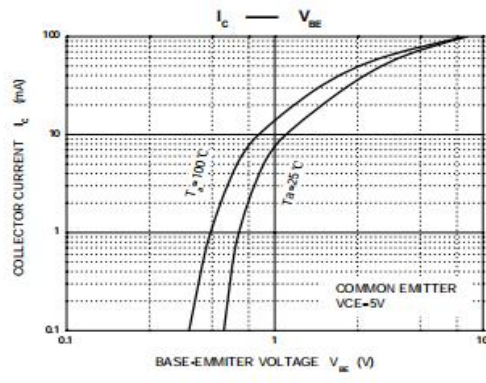
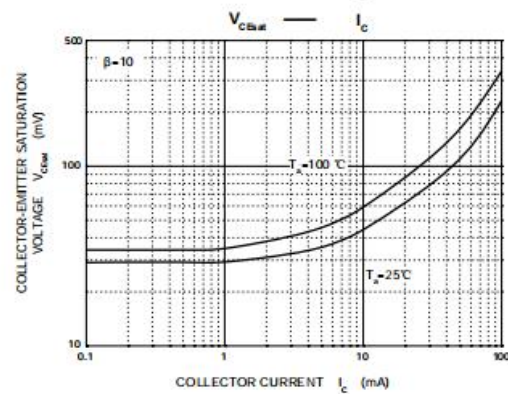
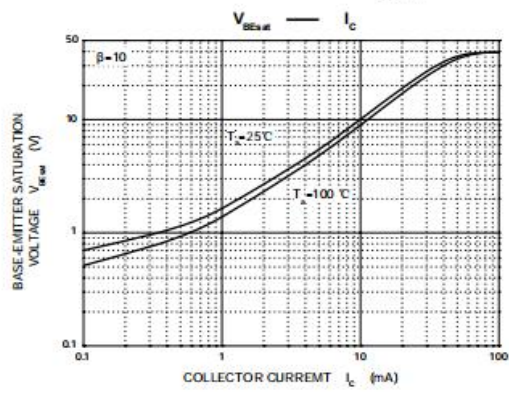
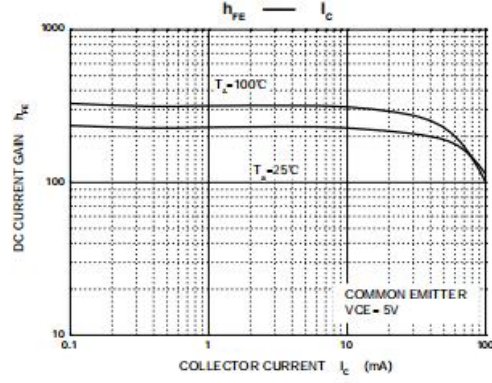
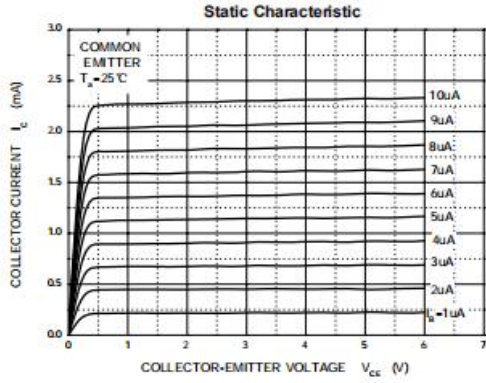
Symbol	Parameter	Values	Unit
V <sub>CC</sub>	Supply Voltage	50	V
V <sub>IN</sub>	Input Voltage	-7~+20	V
I <sub>O</sub>	Output Current	100	mA
P <sub>D</sub>	Power Dissipation	150	mW
T <sub>J</sub>	Junction Temperature	150	°C
T <sub>stg</sub>	Storage Temperature	-55~+150	°C

**ELECTRICAL CHARACTERISTICS (Ta=25°C unless otherwise specified)**

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> =50μA, I <sub>E</sub> =0	50			V
Collector-emitter breakdown voltage	V <sub>(BR)CEO</sub>	I <sub>C</sub> =1mA, I <sub>B</sub> =0	50			V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> =50μA, I <sub>C</sub> =0	5			V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> =50V, I <sub>E</sub> =0			0.5	μA
Emitter cut-off current	I <sub>EBO</sub>	V <sub>EB</sub> =4V, I <sub>C</sub> =0			0.5	μA
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =10mA, I <sub>B</sub> =1mA			0.3	V
DC current gain	h <sub>FE</sub>	V <sub>CE</sub> =5V, I <sub>C</sub> =1mA	100	300	600	
Input resistor	R <sub>1</sub>		7	10	13	kΩ
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =10V, I <sub>E</sub> =-5mA, f=100MHz		250		M Hz

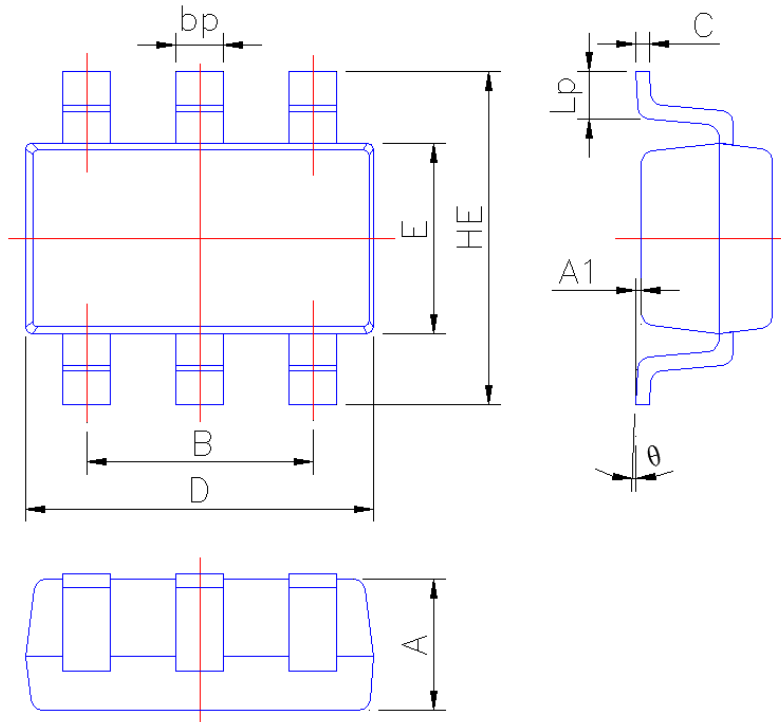


## Typical Characteristi





## SOT-23-6L Package Outline Dimensions



Symbol	Dimension in Millimeters	
	Min	Max
A	1.05	1.20
A1	0.010	0.100
B	1.80	2.00
bp	0.35	0.50
C	0.09	0.15
D	2.80	3.00
E	1.50	1.70
HE	2.60	3.00
Lp	0.25	0.55
θ	2°	6°