

# Power management (dual transistors)

## VT6T12

### ●Structure

PNP silicon epitaxial planar transistor

### ●Features

- 1) Very small package with two transistors.
- 2) Suitable for current mirror circuits.

### ●Applications

Current mirror circuits

### ●Packaging specifications

Type	Package	Taping
	Code	T2R
	Basic ordering unit (pieces)	8000
VT6T12		○

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

Parameter	Symbol	Limits	Unit	
Collector-base voltage	V <sub>CB0</sub>	-50	V	
Collector-emitter voltage	V <sub>CEO</sub>	-50	V	
Emitter-base voltage	V <sub>EBO</sub>	-5	V	
Collector current	I <sub>c</sub>	-100	mA	
	I <sub>CP</sub> *1	-200	mA	
Power dissipation	Total	P <sub>D</sub> *2	150	mW
	Element		120	mW
Junction temperature	T <sub>j</sub>	150	°C	
Range of storage temperature	T <sub>stg</sub>	-55 to +150	°C	

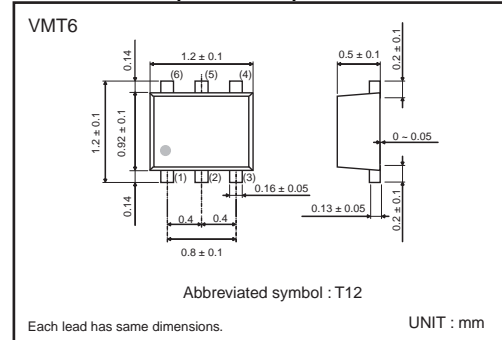
\*1 P<sub>w</sub>=1mS Single pulse

\*2 Each terminal mounted on a recommended land

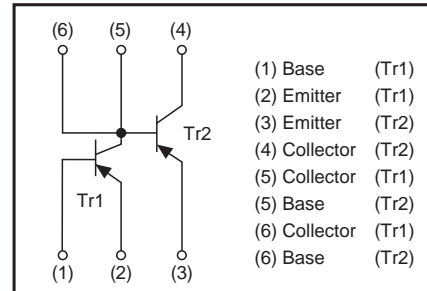
### ●Electrical characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Collector-emitter breakdown voltage	BV <sub>CEO</sub>	-50	-	-	V	I <sub>c</sub> =-1mA
Collector-base breakdown voltage	BV <sub>CB0</sub>	-50	-	-	V	I <sub>c</sub> =-50μA
Emitter-base breakdown voltage	BV <sub>EBO</sub>	-5	-	-	V	I <sub>E</sub> =-50μA
Collector cut-off current	I <sub>CB0</sub>	-	-	-0.1	μA	V <sub>CB</sub> =-50V
Emitter cut-off current	I <sub>EBO</sub>	-	-	-0.1	μA	V <sub>EB</sub> =-5V
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	-	-0.15	-0.40	V	I <sub>c</sub> =-50mA, I <sub>B</sub> =-5mA
DC current gain	h <sub>FE</sub>	120	-	560	-	V <sub>CE</sub> =-6V, I <sub>c</sub> =-1mA
DC current gain ratio	h <sub>FE (Tr1) / h<sub>FE (Tr2)</sub></sub>	0.9	-	1.1	-	V <sub>CE</sub> =-6V, I <sub>c</sub> =-1mA
Transition frequency	f <sub>r</sub>	-	300	-	MHz	V <sub>CE</sub> =-10V, I <sub>E</sub> =10mA, f=100MHz
Output capacitance	C <sub>ob</sub>	-	2	-	pF	V <sub>CB</sub> =-10V, I <sub>E</sub> =0A, f=1MHz

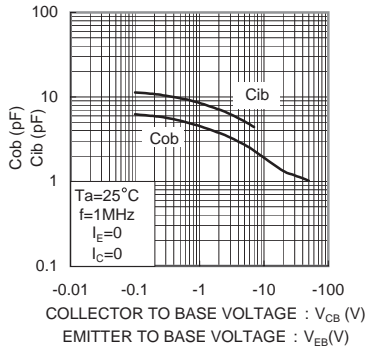
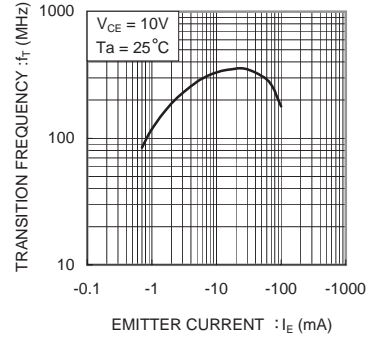
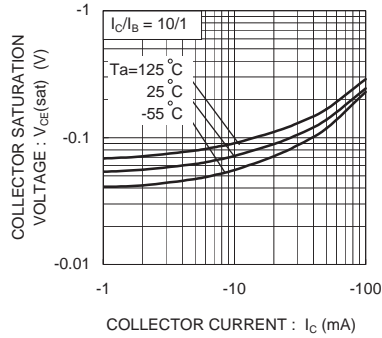
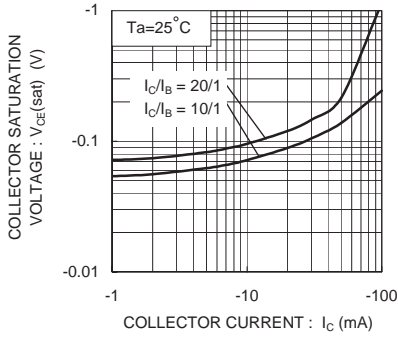
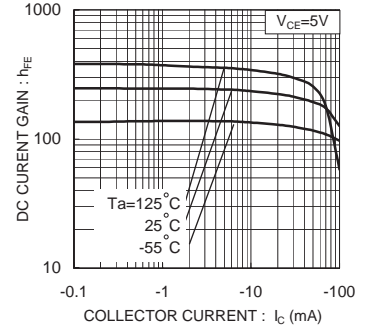
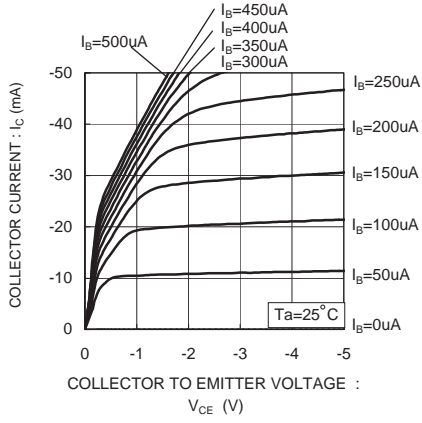
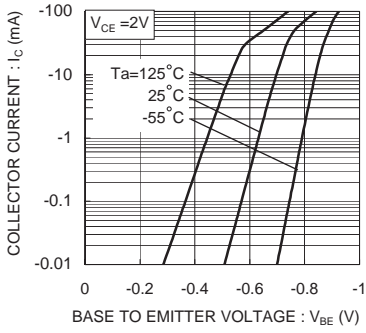
### ●Dimensions (Unit : mm)



### ●inner circuit



●Electrical characteristics curves



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