



# DATA SHEET

SEMICONDUCTOR

M8050

## TRANSISTOR (NPN)



### FEATURES

Power dissipation

### MAXIMUM RATINGS (T<sub>A</sub>=25°C unless otherwise noted)

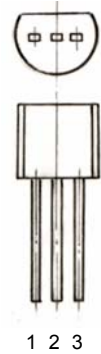
Symbol	Parameter	Value	Units
V <sub>CBO</sub>	Collector-Base Voltage	40	V
V <sub>CEO</sub>	Collector-Emitter Voltage	25	V
V <sub>EBO</sub>	Emitter-Base Voltage	6	V
I <sub>C</sub>	Collector Current -Continuous	800	mA
P <sub>C</sub>	Collector Power Dissipation	625	mW
T <sub>J</sub>	Junction Temperature	125	°C
T <sub>stg</sub>	Storage Temperature	-55-125	°C

TO-92

1.EMITTER

2. BASE

3. COLLECTOR



### ELECTRICAL CHARACTERISTICS (T<sub>amb</sub>=25°C unless otherwise specified)

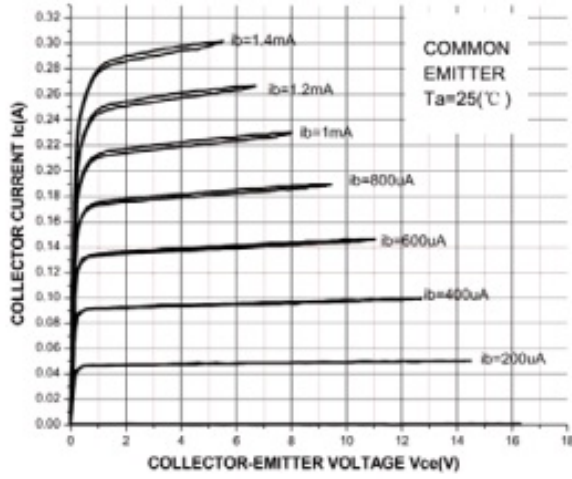
Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	V <sub>(BR)CBO</sub>	I <sub>C</sub> = 100μA, I <sub>E</sub> =0	40		V
Collector-emitter breakdown voltage	V <sub>(BR)CEO*</sub>	I <sub>C</sub> = 1mA, I <sub>B</sub> =0	25		V
Emitter-base breakdown voltage	V <sub>(BR)EBO</sub>	I <sub>E</sub> = 100μA, I <sub>C</sub> =0	6		V
Collector cut-off current	I <sub>CBO</sub>	V <sub>CB</sub> = 35V, I <sub>E</sub> =0		0.1	μA
Collector cut-off current	I <sub>CEO</sub>	V <sub>CE</sub> = 20V, I <sub>B</sub> =0		0.1	μA
DC current gain	h <sub>FE(1)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =5mA	45		
	h <sub>FE(2)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =100mA	80	400	
	h <sub>FE(3)</sub>	V <sub>CE</sub> =1V, I <sub>C</sub> =800mA	40		
Collector-emitter saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> = 800mA, I <sub>B</sub> =80mA		0.5	V
Base-emitter saturation voltage	V <sub>BE(sat)</sub>	I <sub>C</sub> =800mA, I <sub>B</sub> = 80mA		1.2	V
Transition frequency	f <sub>T</sub>	V <sub>CE</sub> =6V, I <sub>C</sub> = 20mA, f=30MHz	150		MHz

\* Pulse Test : pulse width ≤ 300μs , duty cycle ≤2%.

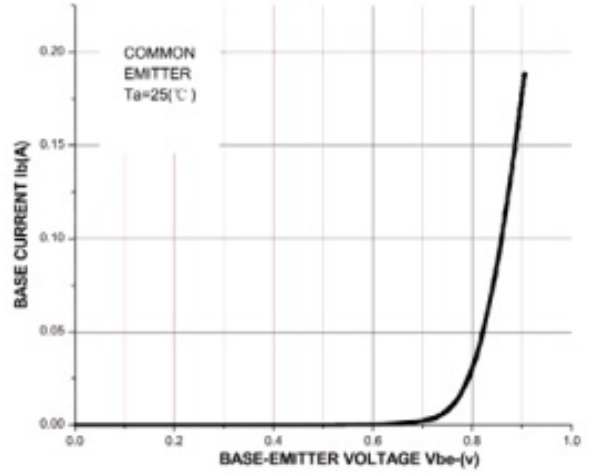
# DEVICE CHARACTERISTICS

## M8050

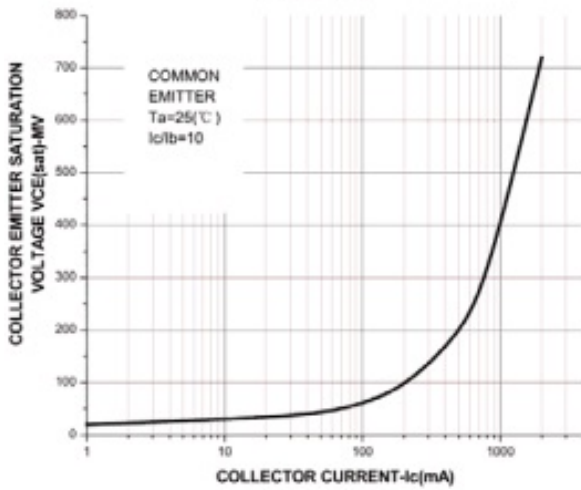
### Ic-Vce



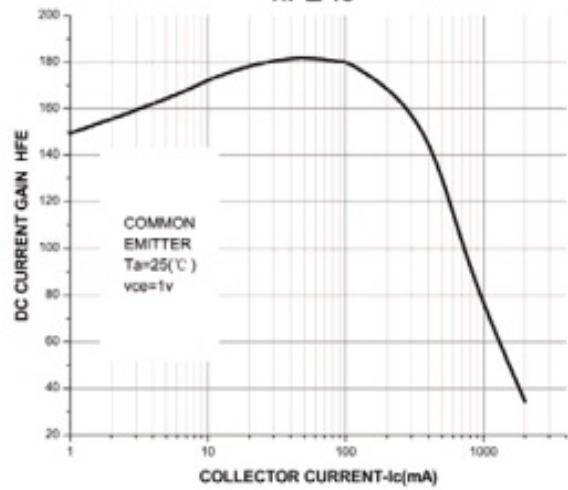
### Ib-Vbe



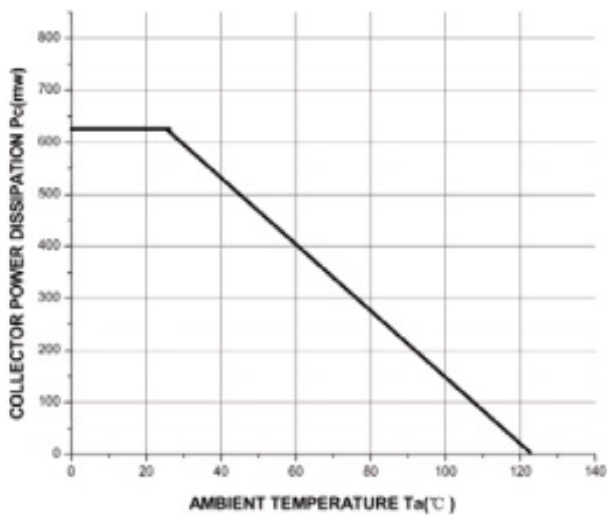
### Vcesat-Ic



### hFE-Ic



### Pc-Ta



# PACKAGE OUTLINE & DIMENSIONS

## M8050

TO-92

Unit: inch ( mm )

