

SOT-23 Plastic-Encapsulate Transistors

M8050 TRANSISTOR (NPN)

SOT-23



- 1. BASE
- 2. EMITTER
- 3. COLLECTOR

FEATURES

Power dissipation

MARKING: Y11

MAXIMUM RATINGS ($T_A=25^\circ\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	40	V
V_{CE0}	Collector-Emitter Voltage	25	V
V_{EB0}	Emitter-Base Voltage	6	V
I_C	Collector Current -Continuous	0.8	A
P_C	Collector Power Dissipation	0.2	W
T_j	Junction Temperature	150	$^\circ\text{C}$
T_{stg}	Storage Temperature	-55-150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS ($T_{amb}=25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CB0}$	$I_C=100\mu\text{A}, I_E=0$	40		V
Collector-emitter breakdown voltage	$V(BR)_{CE0}^*$	$I_C=1\text{mA}, I_B=0$	25		V
Emitter-base breakdown voltage	$V(BR)_{EB0}$	$I_E=100\mu\text{A}, I_C=0$	6		V
Collector cut-off current	I_{CB0}	$V_{CB}=35\text{V}, I_E=0$		0.1	μA
Collector cut-off current	I_{CE0}	$V_{CE}=20\text{V}, I_B=0$		0.1	μA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}, I_C=5\text{mA}$	45		
	$h_{FE(2)}$	$V_{CE}=1\text{V}, I_C=100\text{mA}$	80	300	
	$h_{FE(3)}$	$V_{CE}=1\text{V}, I_C=800\text{mA}$	40		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=800\text{mA}, I_B=80\text{mA}$		0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=800\text{mA}, I_B=80\text{mA}$		1.2	V
Transition frequency	f_T	$V_{CE}=6\text{V}, I_C=20\text{mA}, f=30\text{MHz}$	150		MHz

* Pulse Test : pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2\%$.

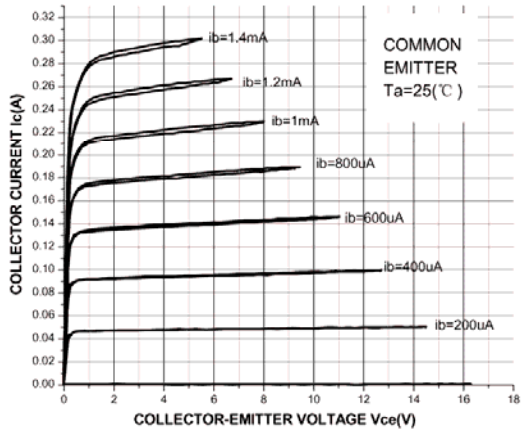
CLASSIFICATION OF $h_{FE(2)}$

Rank	L	H
Range	80-200	200-300

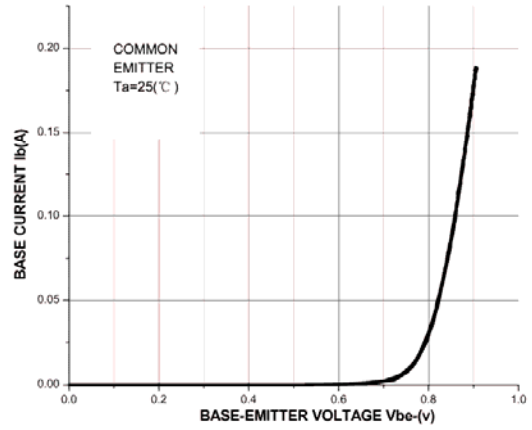
Typical Characteristics

M8050

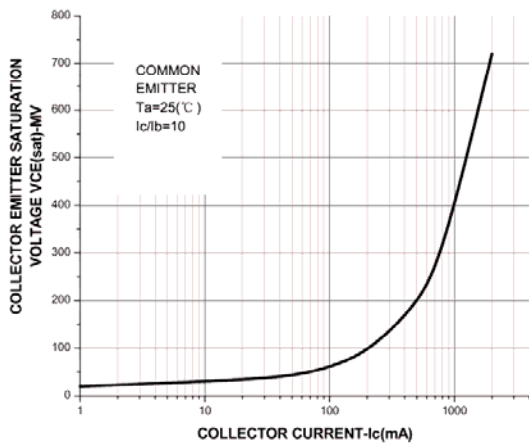
Ic-Vce



Ib-Vbe



Vcesat-Ic



hFE-Ic

