

TRANSISTOR(NPN)

FEATURES

Power dissipation

MARKING: Y11

SOT-23



1. BASE
2. EMITTER
3. COLLECTOR

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	25	V
V_{EBO}	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	$V(BR)_{CBO}$	$I_C = 100\mu\text{A}$, $I_E = 0$	40		V
Collector-emitter breakdown voltage	$V(BR)_{CEO}^*$	$I_C = 1\text{mA}$, $I_B = 0$	25		V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E = 100\mu\text{A}$, $I_C = 0$	6		V
Collector cut-off current	I_{CBO}	$V_{CB} = 35\text{V}$, $I_E = 0$		0.1	μA
Collector cut-off current	I_{CEO}	$V_{CE} = 20\text{V}$, $I_B = 0$		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 $\leq 2\%$.

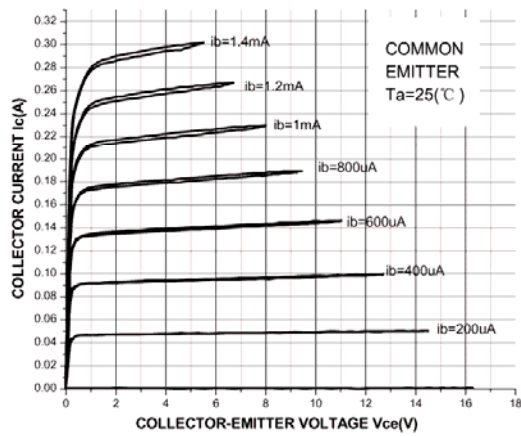
CLASSIFICATION OF $h_{FE(2)}$

Rank	L	H
Range	80-200	200-300

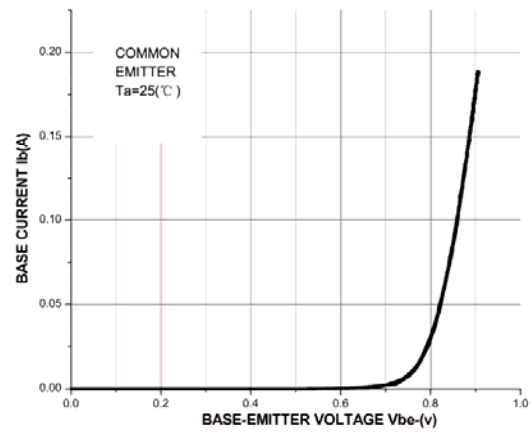
Typical Characteristics

M8050

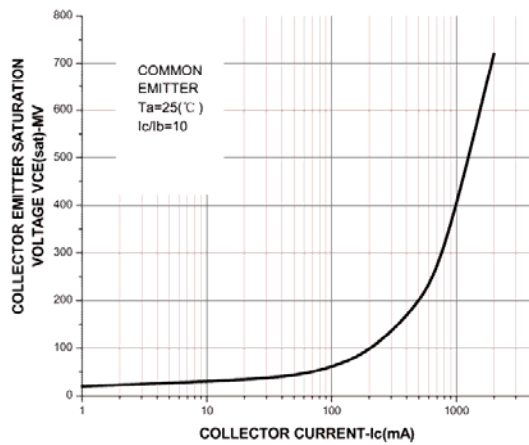
Ic-Vce



Ib-Vbe



Vcesat-Ic



hFE-Ic

