

S8050

NPN Transistors

General description

SOT-23 Plastic-Encapsulate Transistors

SOT-23**FEATURES**

- Complementary to S8550
- Power Dissipation of 300mW
- High Stability and High Reliability

MECHANICAL DATA

- SOT-23 Small Outline Plastic Package
- Epoxy UL: 94V-0
- Mounting Position: Any

1. BASE
2. EMITTER
3. COLLECTOR

**Marking: J3Y****Maximum Ratings & Thermal Characteristics** $T_A = 25^\circ\text{C}$ unless otherwise noted

Parameters	Symbol	Value	Unit
Collector-Base Voltage	V_{CBO}	40	V
Collector-Emitter Voltage	V_{CEO}	25	V
Emitter -Base Voltage	V_{EBO}	5	V
Collector Current-Continuous	I_C	500	mA
Collector Power Dissipation	P_C	300	mW
Junction Temperature	T_j	150	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55-+150	$^\circ\text{C}$
Thermal resistance From junction to ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$

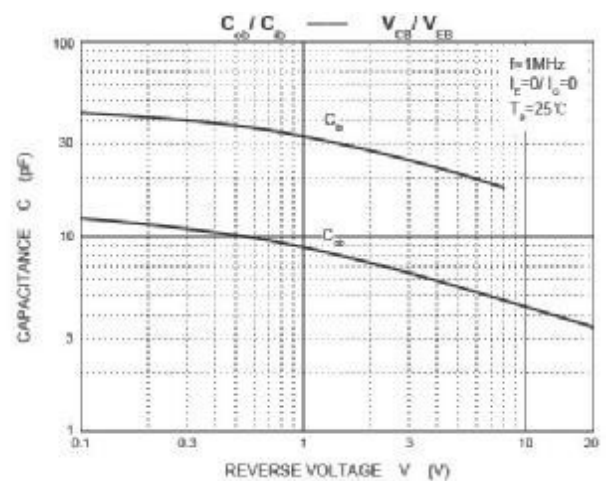
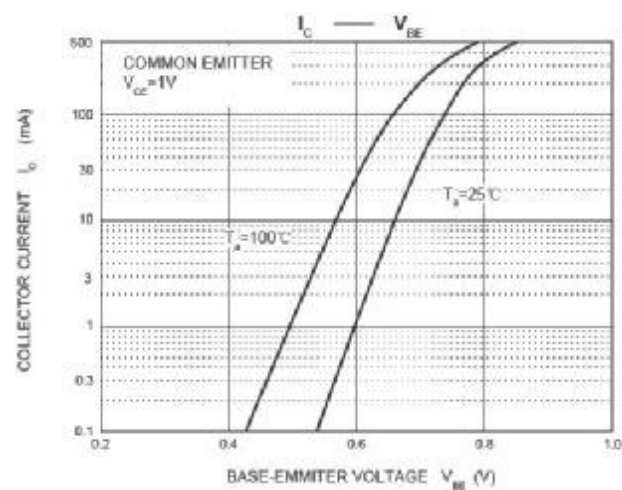
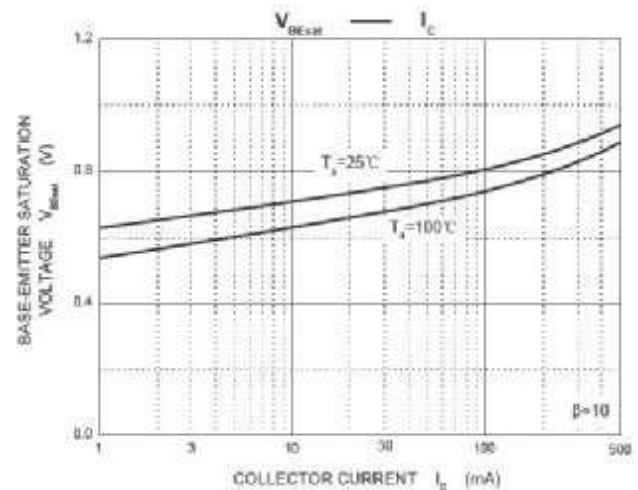
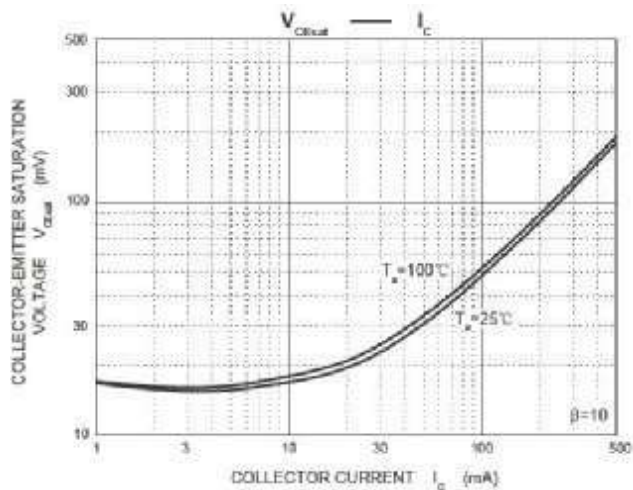
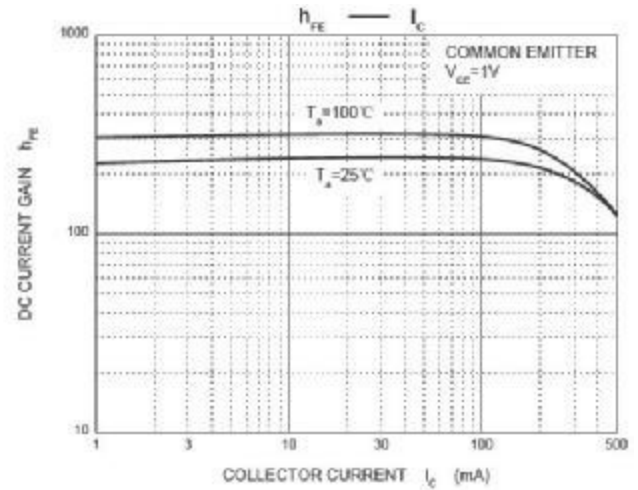
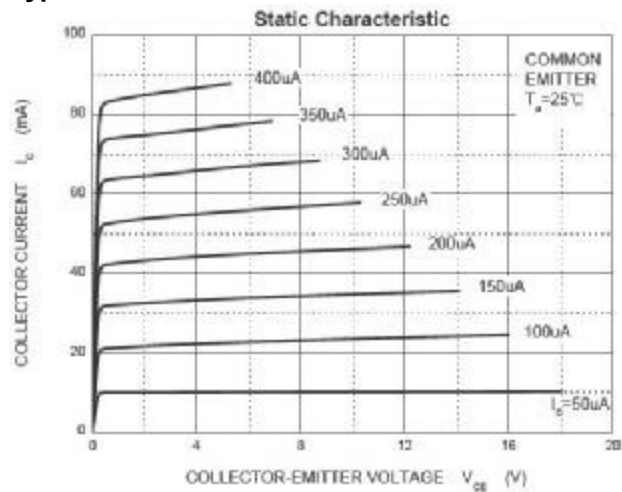
Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted

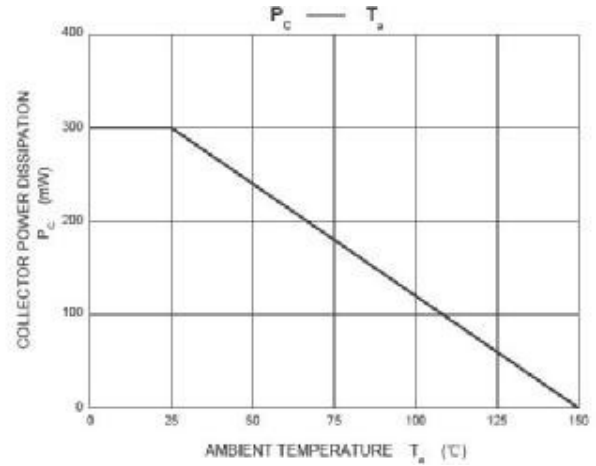
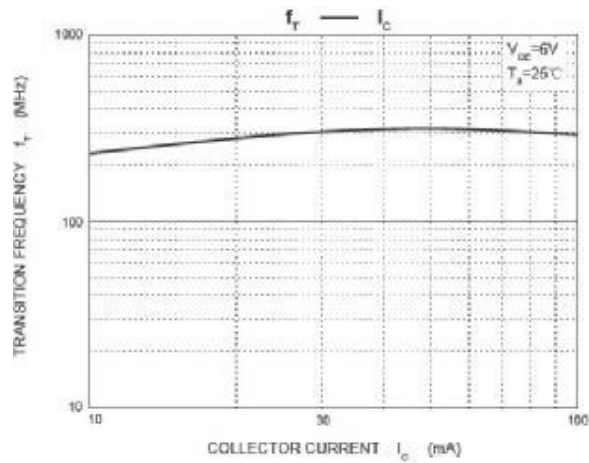
Parameter	Symbols	Test Condition	Limits		Unit
			Min	Max	
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	40		V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	25		V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	5		V
Collector cut-off current	I_{CEO}	$V_{CE}=20\text{V}$, $I_B=0$		100	nA
Collector cut-off current	I_{CBO}	$V_{CB}=40\text{V}$, $I_E=0$		100	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$		100	nA
DC current gain	$h_{FE(1)}$	$V_{CE}=1\text{V}$, $I_C=50\text{mA}$	120	400	
	$h_{FE(2)}$	$V_{CE}=1\text{V}$, $I_C=500\text{mA}$	50		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$		0.60	V
Base -emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$		1.20	V
Transition frequency	f_T	$V_{CE}=6\text{V}$, $I_C=20\text{mA}$, $f=30\text{MHz}$	150		MHz

CLASSIFICATION OF $h_{FE(1)}$

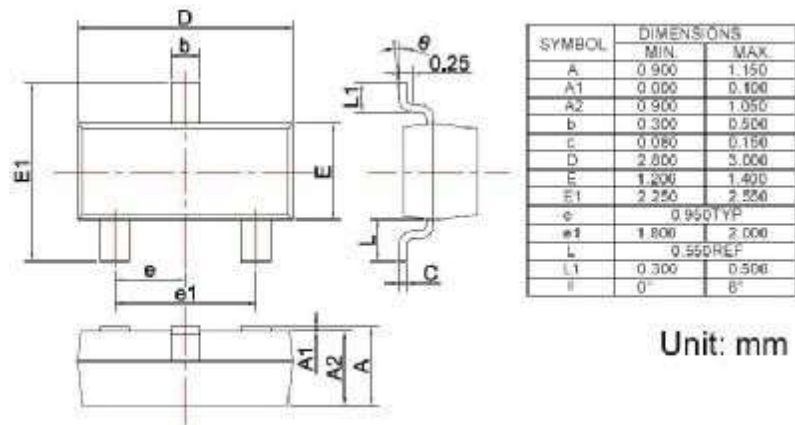
RANK	L	H	J
RANGE	120-200	200-350	300-400

Typical characteristics

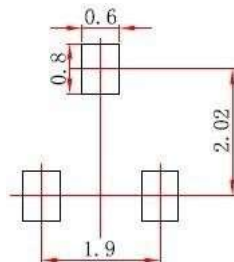




SOT-23 PACKAGE OUTLINE Plastic surface mounted package



Recommended land dimensions for SOT-23 diode. Electrode patterns for PCBs



- Note:
1. Controlling dimension; in millimeters.
 2. General tolerance; ± 0.05 mm.
 3. The pad layout is for reference purposes only.

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