

S8050

NPN GENERAL PURPOSE TRANSISTOR

VOLTAGE	25 Volt	POWER	300 mWatt
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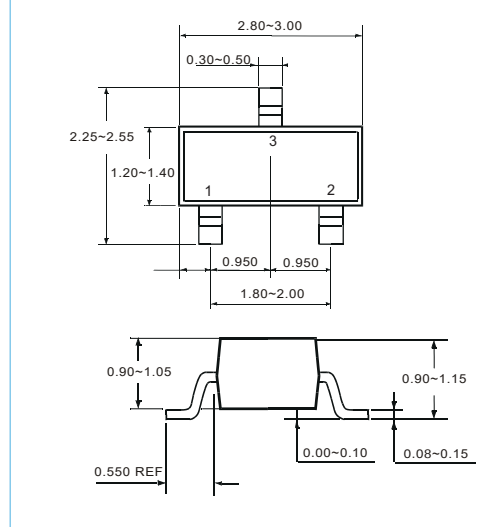
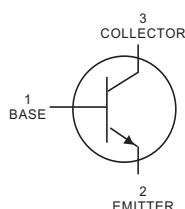
SOT-23 Unit:mm

FEATURES

- NPN epitaxial silicon, planar design
- Epitaxial planar die construction
- Complimentary to S8550
- Lead free in compliance with EU RoHS

MECHANICAL DATA

- Case Material: Molded Plastic.
- UL Flammability Classification Rating 94V-0



MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

Parameter	Symbol	Value	Units
Collector - Emitter Voltage	V _{CEO}	25	V
Collector - Base Voltage	V _{CB0}	40	V
Emitter - Base Voltage	V _{EB0}	5	V
Collector Current - Continuous	I _c	500	mA
Collector Dissipation	P _c	300	mW
Thermal resistance junction to ambient	R _{θJA}	417	°C/W
Junction Temperature	T _J	150	°C
Storage Temperature	T _{STG}	-55~+150	°C

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

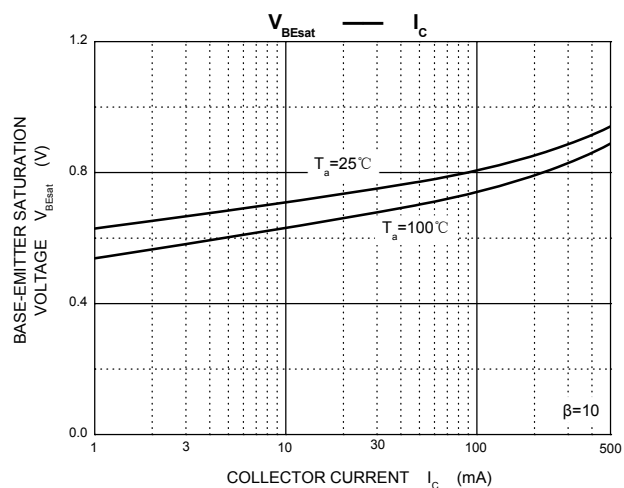
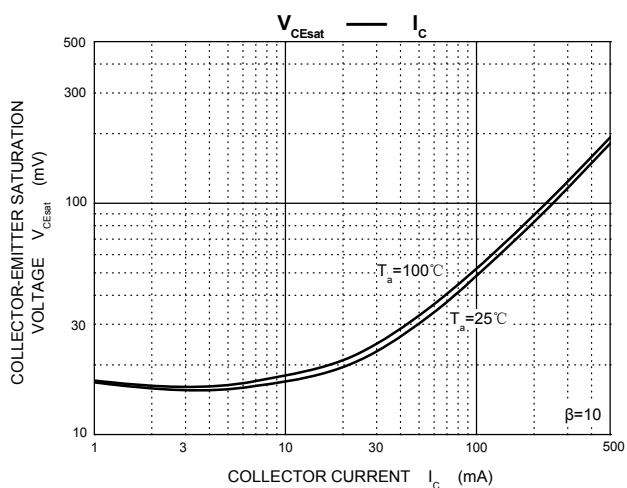
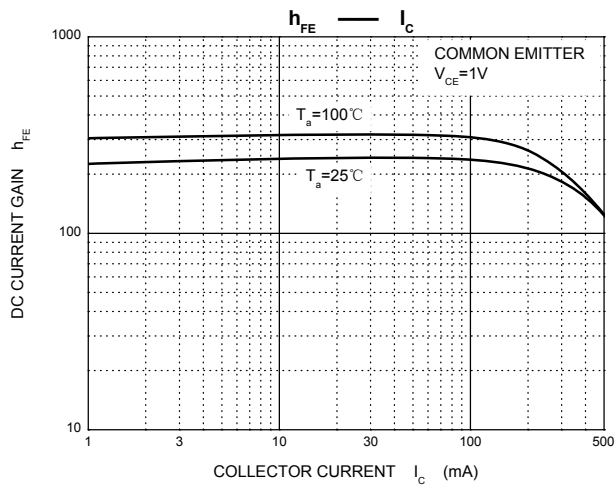
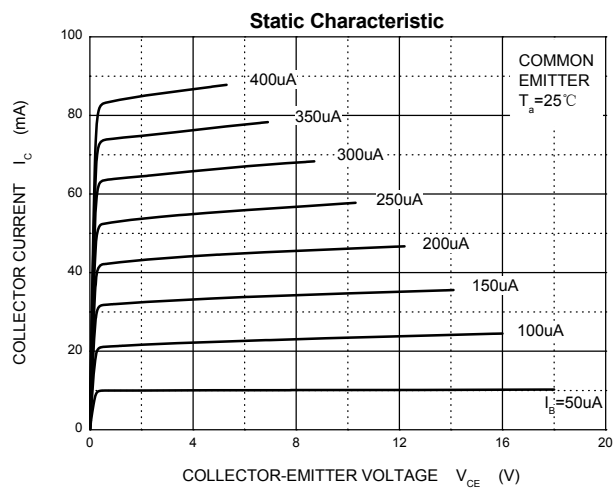
Parameter	Symbol	Test conditions	Min	Typ	Max	Unit
Collector-base breakdown voltage	$V_{(BR)CBO}$	$I_C=100\mu\text{A}$, $I_E=0$	40			V
Collector-emitter breakdown voltage	$V_{(BR)CEO}$	$I_C=1\text{mA}$, $I_B=0$	25			V
Emitter-base breakdown voltage	$V_{(BR)EBO}$	$I_E=100\mu\text{A}$, $I_C=0$	5			V
Collector cut-off current	I_{CBO}	$V_{CB}=40\text{V}$, $I_E=0$			0.1	μA
Collector cut-off current	I_{CEO}	$V_{CB}=20\text{V}$, $I_E=0$			0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}$, $I_C=0$			0.1	μA
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	$V_{CE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$			0.6	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C=500\text{mA}$, $I_B=50\text{mA}$			1.2	V
Transition frequency	f_T	$V_{CE}=6\text{V}$, $I_C=20\text{mA}$ $f=30\text{MHz}$	150			MHz

CLASSIFICATION OF $h_{FE(1)}$

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

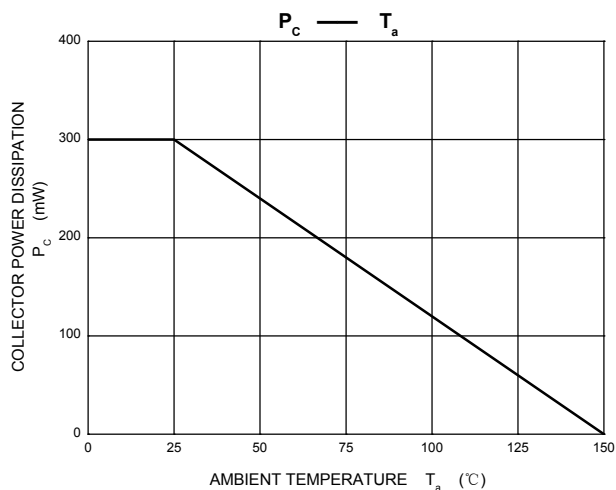
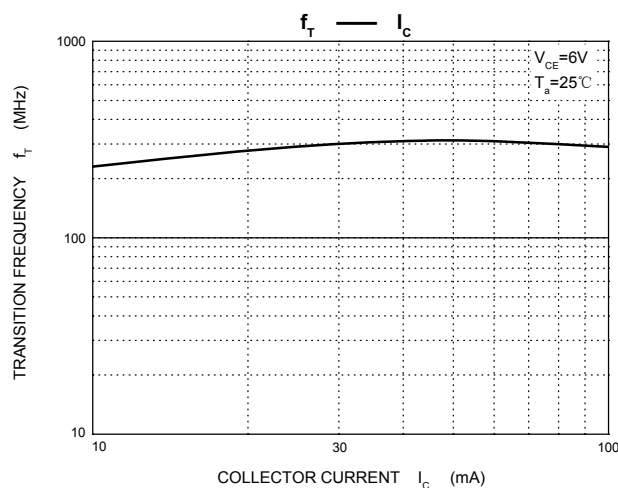
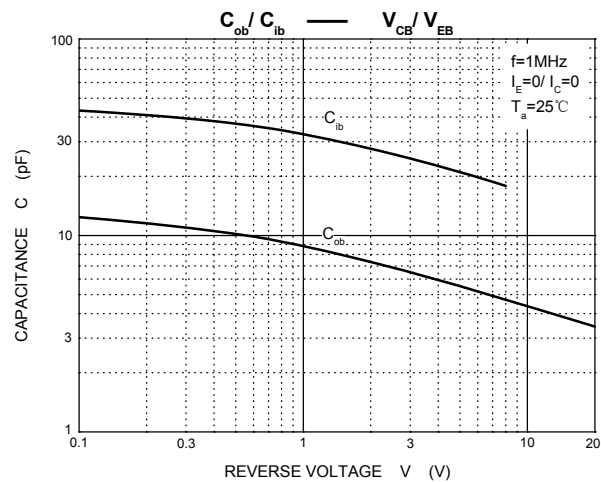
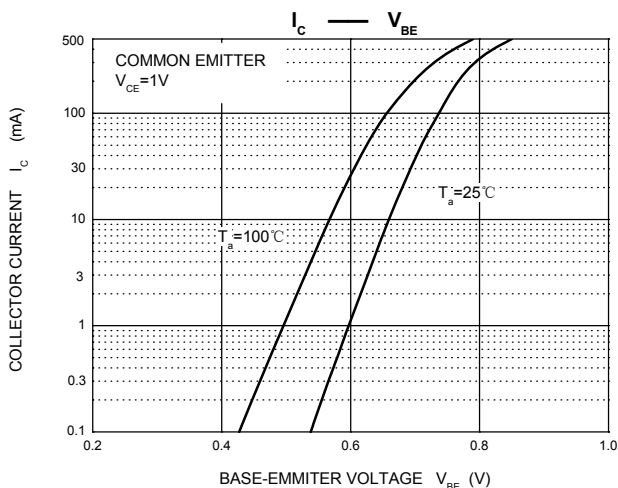
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Typical Characteristics



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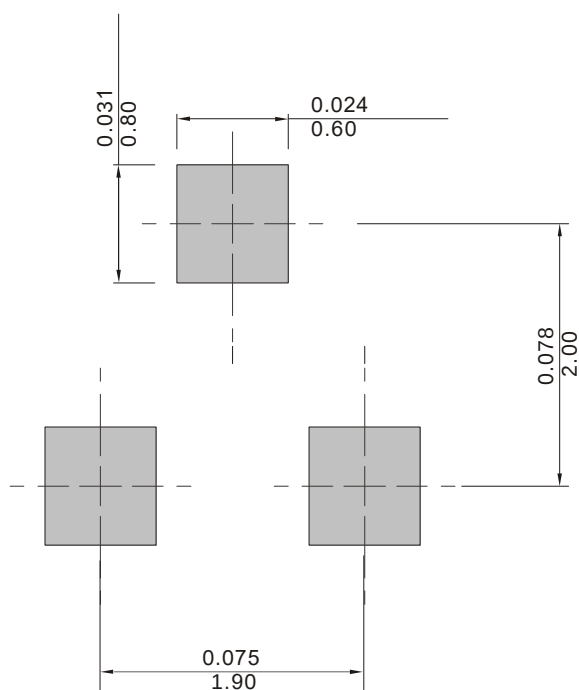


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MOUNTING PAD LAYOUT

SOT-23

Unit:Inch(mm)



ORDER INFORMATION

- Packing information

Part Number	Case	Reel Size	QUANTITY
MMBT3904	SOT-23	7 Inch	3000