

MMBT8550-CH

PNP Silicon Epitaxial Planar Transistor

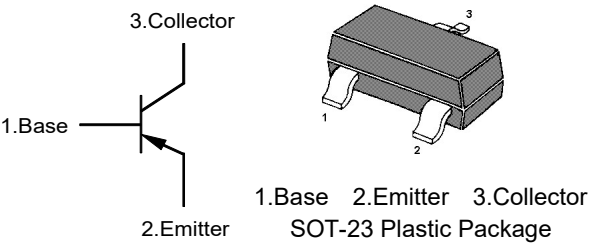
As complementary type the NPN transistor
MMBT8050 is recommended.

Features

- AEC-Q101 Qualified
- Halogen and Antimony Free(HAF), RoHS compliant

Applications

- For switching and amplifier



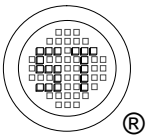
Absolute Maximum Ratings (T_a = 25°C)

Parameter	Symbol	Value	Unit
Collector Base Voltage	-V _{CBO}	40	V
Collector Emitter Voltage	-V _{CEO}	25	V
Emitter Base Voltage	-V _{EBO}	6	V
Collector Current	-I _C	600	mA
Total Power Dissipation ¹⁾	P _{tot}	350	mW
Junction Temperature	T _j	150	°C
Storage Temperature Range	T _{Stg}	- 55 to + 150	°C

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance from Junction to Ambient ¹⁾	R _{θJA}	357	°C/W

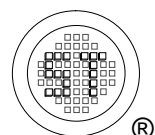
¹⁾ Device mounted on FR-4 PCB with minimum recommended pad layout.



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Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $-V_{CE} = 1\text{ V}$, $-I_C = 100\text{ mA}$ at $-V_{CE} = 1\text{ V}$, $-I_C = 500\text{ mA}$	MMBT8550C h_{FE}	100	-	250	-
	MMBT8550D h_{FE}	160	-	400	-
	h_{FE}	40	-	-	-
Collector Base Cutoff Current at $-V_{CB} = 35\text{ V}$	$-I_{CBO}$	-	-	100	nA
Collector Base Breakdown Voltage at $-I_C = 10\text{ }\mu\text{A}$	$-V_{(BR)CBO}$	40	-	-	V
Collector Emitter Breakdown Voltage at $-I_C = 2\text{ mA}$	$-V_{(BR)CEO}$	25	-	-	V
Emitter Base Breakdown Voltage at $-I_E = 100\text{ }\mu\text{A}$	$-V_{(BR)EBO}$	6	-	-	V
Collector Emitter Saturation Voltage at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$	$-V_{CE(sat)}$	-	-	0.5	V
Base Emitter Saturation Voltage at $-I_C = 500\text{ mA}$, $-I_B = 50\text{ mA}$	$-V_{BE(sat)}$	-	-	1.2	V
Gain Bandwidth Product at $-V_{CE} = 5\text{ V}$, $-I_C = 10\text{ mA}$	f_T	-	100	-	MHz



Electrical Characteristics Curve

Fig. 1 Output Characteristics Curve

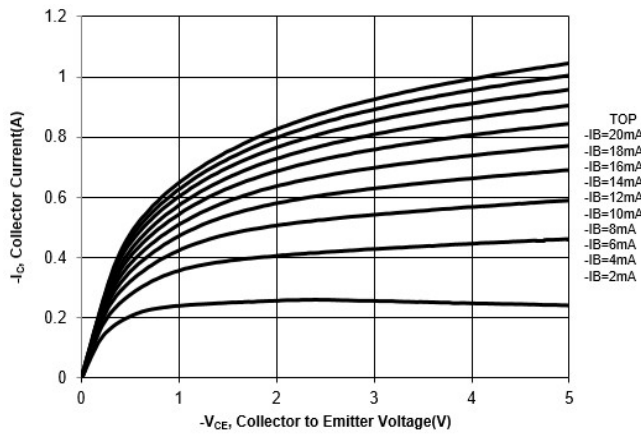


Fig. 2 Collector Current vs. Base to Emitter Voltage

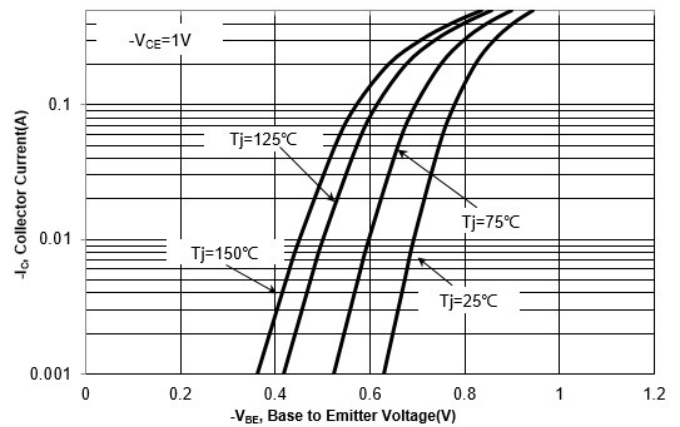


Fig. 3 DC Current Gain vs. Collector Current

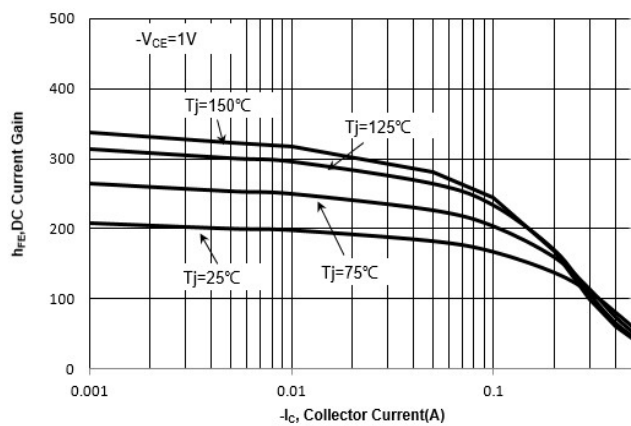
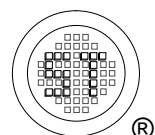
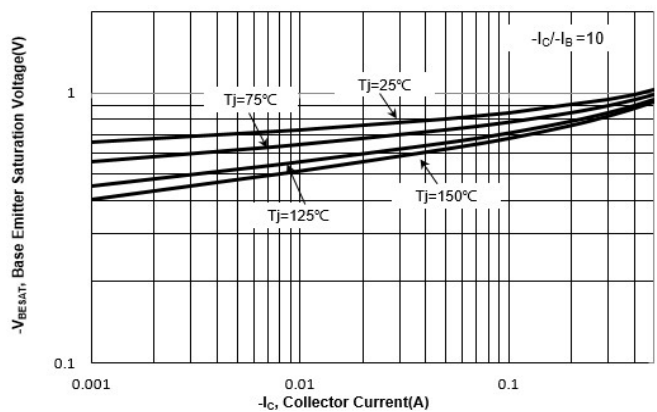


Fig. 4 $V_{BE(sat)}$ vs. Collector Current



Electrical Characteristics Curves

Fig. 5 $V_{CE(sat)}$ vs. Collector Current

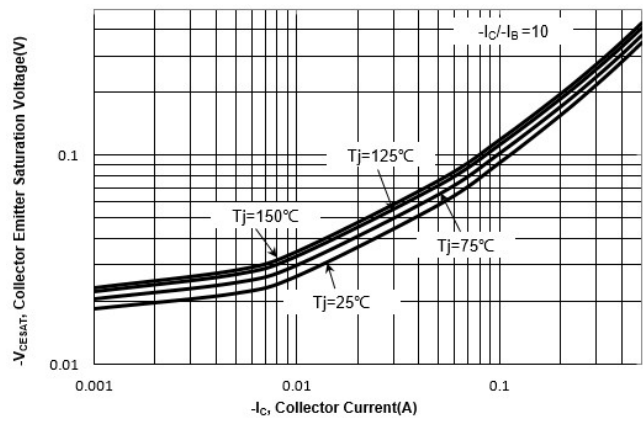


Fig. 6 Output Capacitance

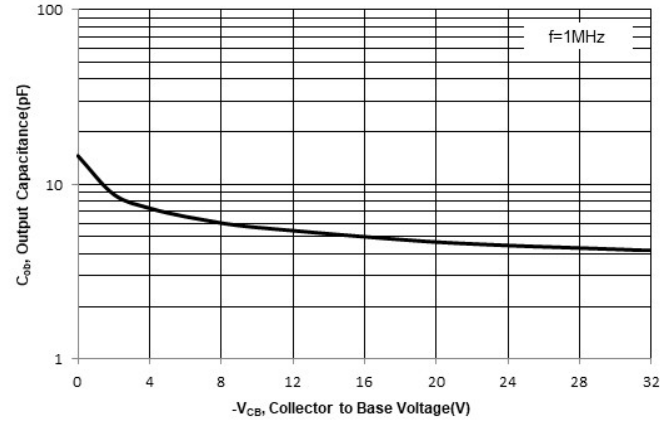
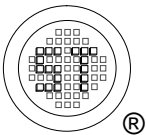
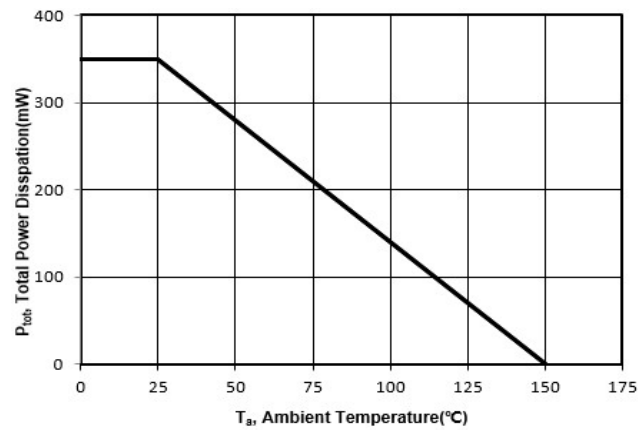


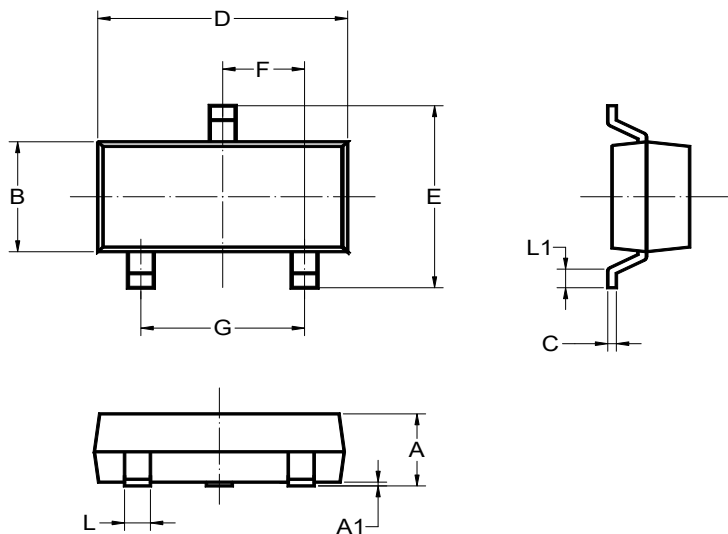
Fig. 7 Power Derating Curve



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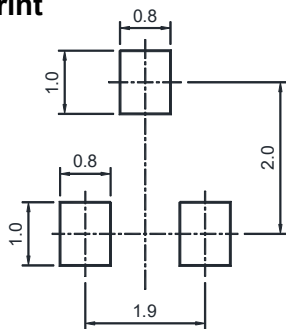
Package Outline (Dimensions in mm)

SOT-23



Unit	A	A1	B	C	D	E	F	G	L	L1
mm	1.20 0.89	0.100 0.013	1.40 1.20	0.19 0.08	3.04 2.80	2.6 2.2	1.02 0.89	2.04 1.78	0.51 0.37	0.2 MIN

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOT-23	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

"XXX" = Marking Code.

MMBT8550C:B9C

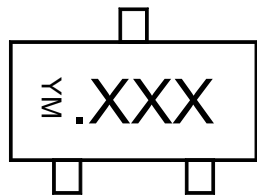
MMBT8550D:B9D

"•" = HAF (Halogen and Antimony Free)

"YM" = Date Code Marking

"Y" = Year

"M" = Month



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