

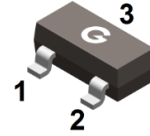
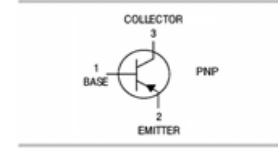
Features

- High current capacity in compact package ($I_C = -1.5A$)
- Complimentary to MMBTH8050
- RoHS compliant with Halogen-free

HF

Mechanical Data

- Case: SOT-23
- Molding compound: UL flammability classification rating 94V-0
- Terminals: Tin-plated; solderability per MIL-STD-202, Method 208



SOT-23

Ordering Information

Part Number	Package	Shipping Quantity	Marking Code
MMBTH8550-P	SOT-23	3000 pcs / Tape & Reel	KIO
MMBTH8550-Q	SOT-23	3000 pcs / Tape & Reel	KIY

Maximum Ratings (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Collector-Base Breakdown Voltage	V_{CBO}	-50	V
Collector-Emitter Breakdown Voltage	V_{CEO}	-50	V
Emitter-Base Breakdown Voltage	V_{EBO}	-6	V
Collector Current (Continuous)	I_C	-1.5	A
Collector Current (Peak)	I_{CM}	-2	A
Power Dissipation	P_D	0.35	W
Junction Temperature Range	T_J	-55 ~ +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 ~ +150	$^\circ\text{C}$

Thermal Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit
Thermal Resistance Junction-to-Air ^{*1}	$R_{\theta JA}$	-	-	350	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Case ^{*1}	$R_{\theta JC}$	-	-	150	$^\circ\text{C/W}$
Thermal Resistance Junction-to-Lead ^{*1}	$R_{\theta JL}$	-	-	125	$^\circ\text{C/W}$

Note 1: The data tested by surface mounted on a 15mm * 15mm * 1mm FR4-epoxy P.C.B

Electrical Characteristics (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

Parameter	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base Breakdown Voltage	$V_{(BR)CBO}$	$I_C = -100\mu\text{A}, I_E = 0$	-50	-	-	V
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	$I_C = -2\text{mA}, I_B = 0$	-50	-	-	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
Emitter Cut-off Current	I_{EBO}	$V_{EB} = -6\text{V}, I_C = 0$	-	-	-0.1	μA
DC Current Gain	h_{FE}	$V_{CE} = -1\text{V}, I_C = -0.1\text{A}$	100	-	320	-
		$V_{CE} = -1\text{V}, I_C = -0.8\text{A}$	40	-	-	-
Collector-emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = -0.8\text{A}, I_B = -0.08\text{A}$	-	-	-0.5	V
Base-emitter Saturation Voltage	$V_{BE(sat)}$	$I_C = -0.8\text{A}, I_B = -0.08\text{A}$	-	-	-1.2	V
Base-emitter on Voltage	$V_{BE(on)}$	$V_{CE} = -1\text{V}, I_C = -10\text{mA}$	-	-	-1	V
Transition Frequency	f_T	$I_C = -50\text{mA}, V_{CE} = -10\text{V}$	120	-	-	MHz
Collector Output Capacitance	C_{OB}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	10	-	pF

Classification of h_{FE}

Rank	P	Q
Range	100-200	160-320

Ratings and Characteristics Curves (@ $T_A = 25^\circ\text{C}$ unless otherwise specified)

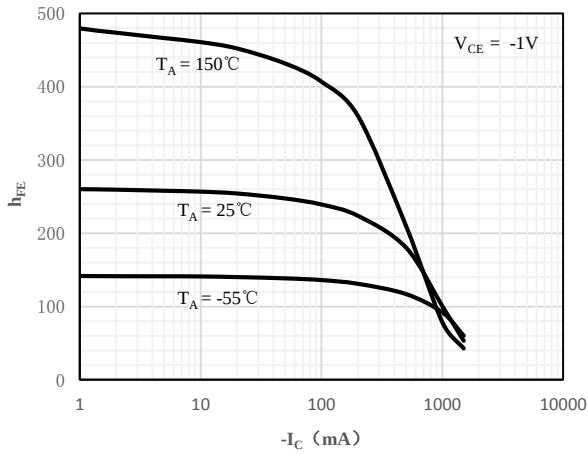


Fig 1 h_{FE} vs. I_C

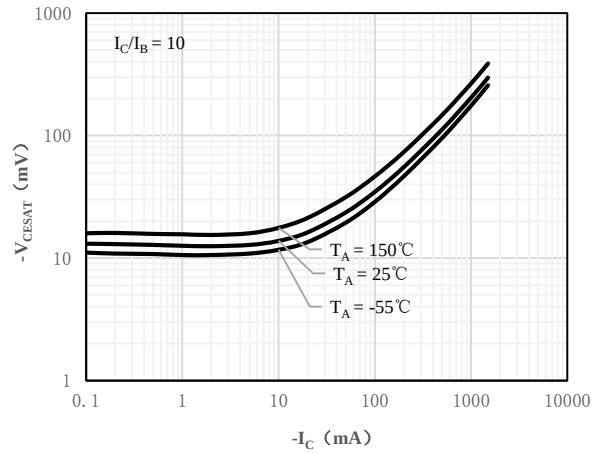


Fig 2 $V_{CE(sat)}$ vs. I_C

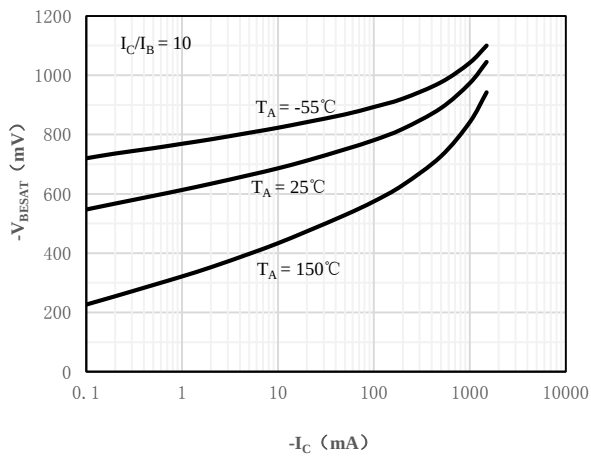


Fig 3 $V_{BE(sat)}$ vs. I_C

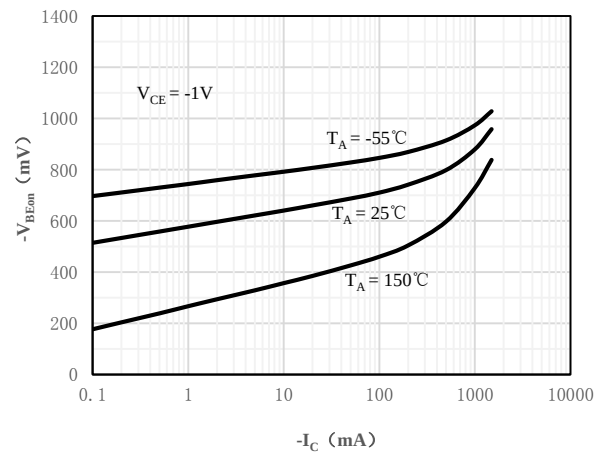


Fig 4 $V_{BE(on)}$ vs. I_C

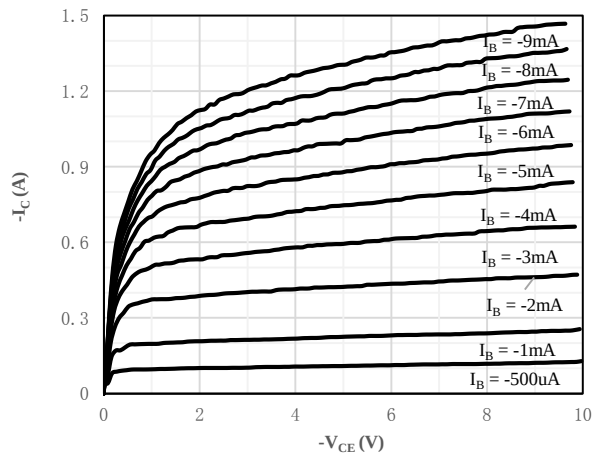


Fig 5 I_C vs. V_{CE}

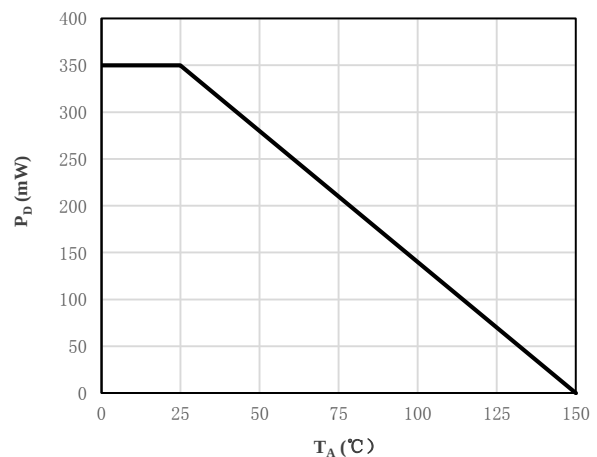


Fig 6 P_D vs. T_A

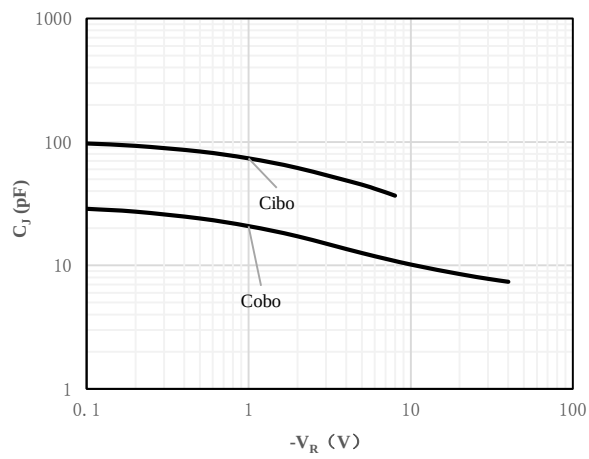
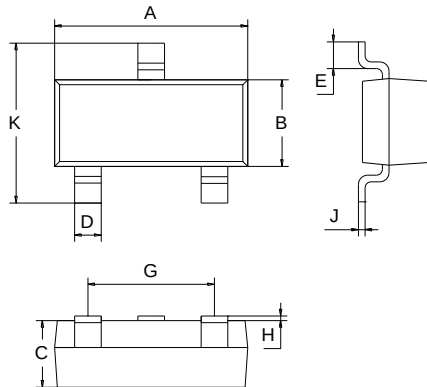


Fig 7 C_j vs. V_R

Package Outline Dimensions (Unit: mm)



SOT-23		
Dimension	Min.	Max.
A	2.70	3.10
B	1.10	1.50
C	0.90	1.10
D	0.30	0.50
E	0.35	0.48
G	1.80	2.00
H	0.02	0.10
J	0.05	0.15
K	2.20	2.60

Package Outline Dimensions (Unit: mm)

SOT-23

