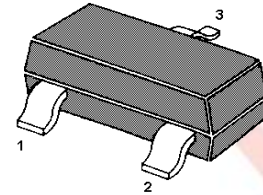


# MMBT8050C/D

## Features

- ◆ For Switching and Amplifier Applications.
- ◆ As Complementary Type of the PNP Transistor MMBT8550C/D is Recommended.

SOT-23  
(TO-236)



## Absolute Maximum Ratings ( $T_A=25\text{ }^\circ\text{C}$ , unless otherwise noted)

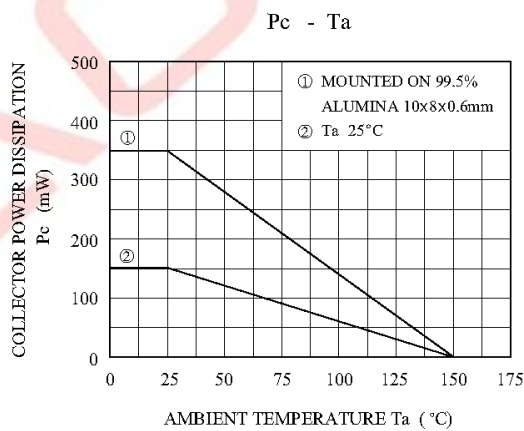
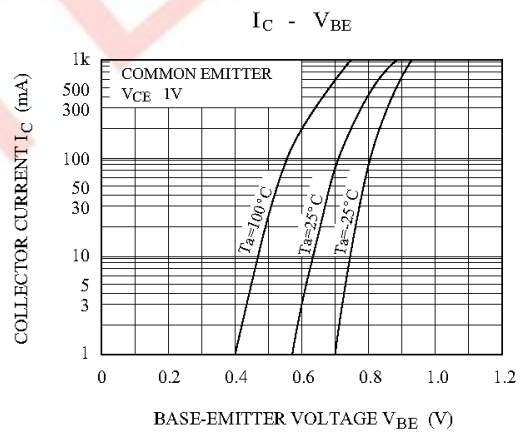
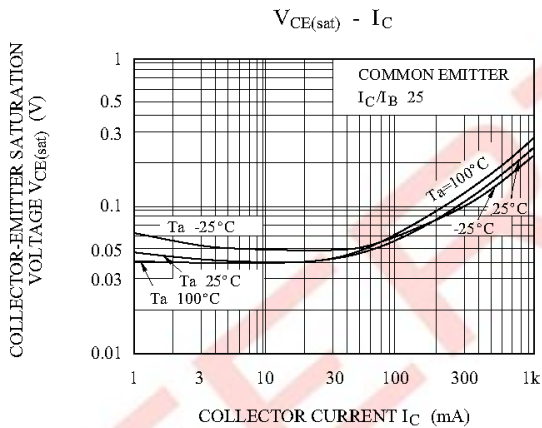
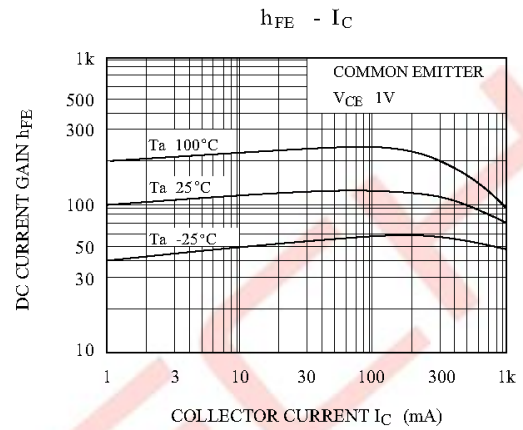
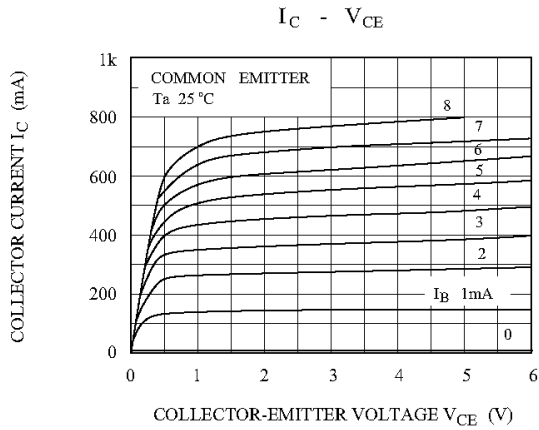
Parameter	Symbol	Value	Unit
Collector Base Voltage	$V_{CBO}$	40	V
Collector Emitter Voltage	$V_{CEO}$	25	V
Emitter Base Voltage	$V_{EBO}$	6	V
Collector Current	$I_C$	600	mA
Power Dissipation	$P_D$	350	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to 150	$^\circ\text{C}$

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

Parameter	Symbol	Min.	Typ.	Max.	Unit
DC Current Gain at $V_{CE} = 1\text{ V}$ , $I_C = 100\text{ mA}$ Current Gain Group	C D $H_{FE}$	100	-	250	
		160	-	400	
		at $V_{CE} = 1\text{ V}$ , $I_C = 500\text{ mA}$	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
Transition Frequency at $V_{CE} = 5\text{ V}$ , $I_C = 10\text{ mA}$	$F_T$	-	100	-	MHz

# MMBT8050C/D

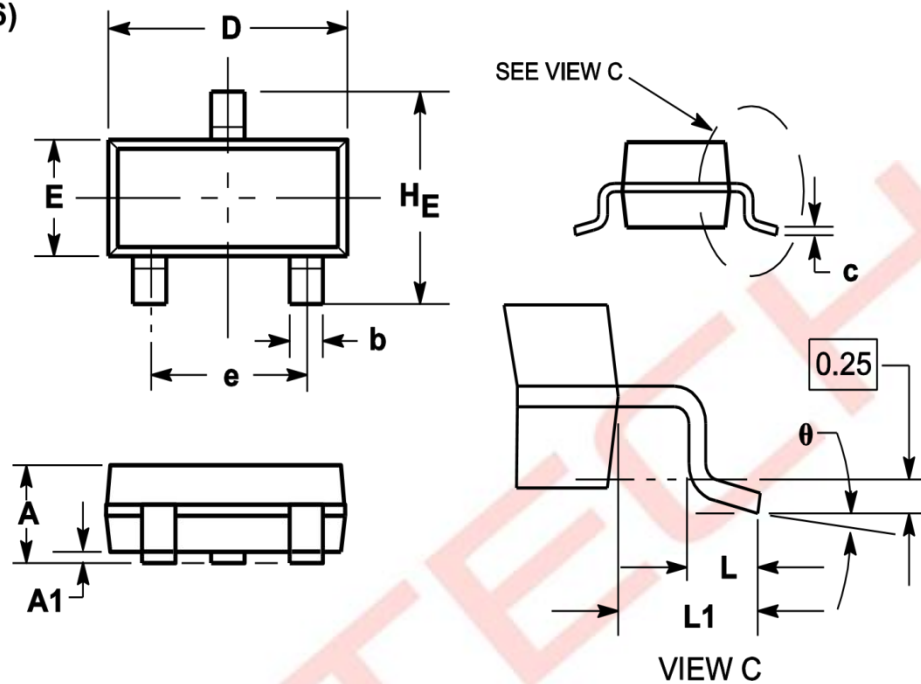
## Typical Characteristics Curves



# MMBT8050C/D

## Package Outline

SOT-23 (TO-236)



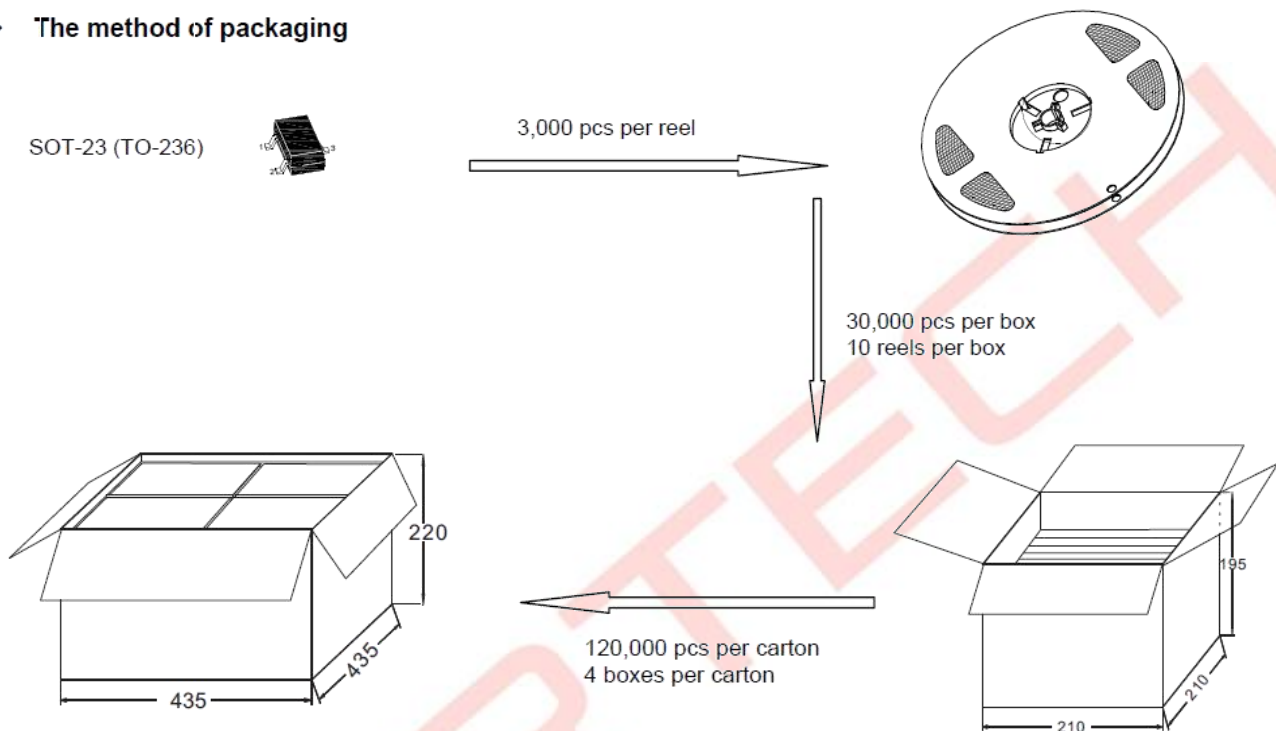
Symbol	Dimensions in millimeter		
	Min.	Typ.	Max.
A	0.900	1.025	1.150
A1	0.000	0.050	0.100
b	0.300	0.400	0.500
c	0.080	0.115	0.150
D	2.800	2.900	3.000
E	1.200	1.300	1.400
HE	2.250	2.400	2.550
e	1.800	1.900	2.000
L1	0.550REF		
L	0.300		0.500
θ	0°		8°

Device	Package	Reel Dimension (inch)	Shipping
MMBT8050C/D	SOT-23	7	3,000

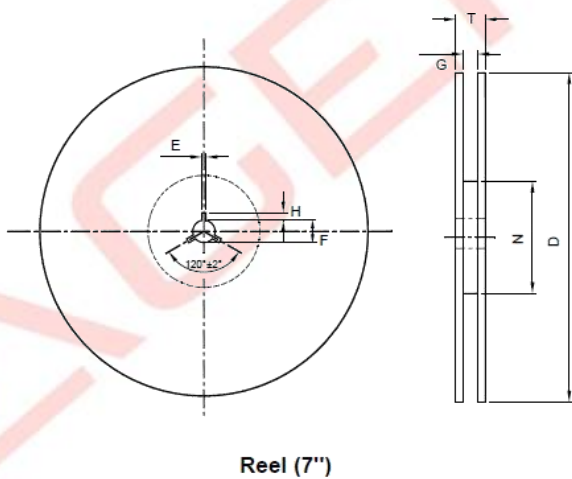
# MMBT8050C/D

## Package Specifications

### ◆ The method of packaging



### ◆ Embossed tape and reel data



Symbol	Value (unit: mm)
A	3.15 ± 0.1
B	2.7 ± 0.1
C	1.25 ± 0.1
E	2 ± 0.5
F	13 ± 0.5
D	178 ± 2.0
G	8.4 ± 1.5
H	4 ± 0.5
N	60
T	< 14.9

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