

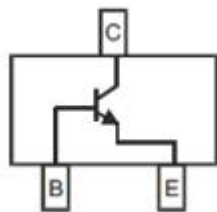
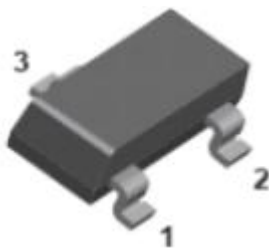
1. Features

- Complementary to MMBT3906
- Power Dissipation of 200mW
- High Stability and High Reliability
- Halogen-free、RoHS Compliant

2. Mechanical Data

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

3. Symbol



Pin	Function
1	Base
2	Emitter
3	Collector

SOT-23

4. Absolute maximum ratings

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

Parameter	Symbol	Rating	Units
Collector-Base voltage	V_{CBO}	60	V
Collector-Emitter voltage	V_{CEO}	40	V
Emitter-Base voltage	V_{EBO}	6	V
Collector Current-Continuous	I_C	200	mA
Collector Power Dissipation	P_C	200	mW
Junction temperature	T_J	150	$^{\circ}\text{C}$
storage temperature	T_{STG}	-55 to 150	$^{\circ}\text{C}$
Thermal resistance From junction to ambient	$R_{\theta JA}$	625	$^{\circ}\text{C/W}$

5. Electrical characteristics

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

Parameter	Symbol	Test Conditions	Min	Max	Units
Collector-base breakdown voltage	BVCBO	$I_C=10\mu\text{A}$, $I_E=0$	60	-	V
Collector-emitter breakdown voltage	BVCEO	$I_C=1\text{mA}$, $I_B=0$	40	-	V
Emitter-base breakdown voltage	BVEBO	$I_E=10\mu\text{A}$, $I_C=0$	6	-	V
Collector-base cut-off current	ICBO	$V_{CB}=60\text{V}$, $I_E=0$	-	100	nA
Collector-base cut-off current	ICEX	$V_{CB}=30\text{V}$, $V_{BE}(\text{off})=3\text{V}$	-	50	nA
Collector-Emitter cut-off current	IEBO	$V_{EB}=5\text{V}$, $I_C=0$	-	100	nA
DC current gain	hFE1	$V_{CE}=1\text{V}$, $I_C=10\text{mA}$	100	300	
	hFE2	$V_{CE}=1\text{V}$, $I_C=50\text{mA}$	60	-	
	Hfe3	$V_{CE}=1\text{V}$, $I_C=100\text{mA}$	30	-	
Collector-emitter saturation voltage	$V_{CE}(\text{sat})$	$I_C=50\text{mA}$, $I_B=5\text{mA}$	-	0.30	V
Base -emitter saturation voltage	$V_{BE}(\text{sat})$	$I_C=50\text{mA}$, $I_B=5\text{mA}$	-	0.95	V
Transition frequency	f_T	$V_{CE}=20\text{V}$, $I_C=10\text{mA}$, $f=100\text{MHz}$	300	-	MHz
Delay time	t_d	$V_{CC}=3\text{V}$, $V_{BE}(\text{off})=-0.5\text{V}$, $I_C=10\text{mA}$, $I_{B1}=1\text{mA}$	-	35	nS
Rise time	t_r		-	35	nS
Storage time	t_s	$V_{CC}=3\text{V}$, $I_C=10\text{mA}$, $I_{B1}=I_{B2}=1\text{mA}$	-	200	nS
Fall time	t_f		-	50	nS

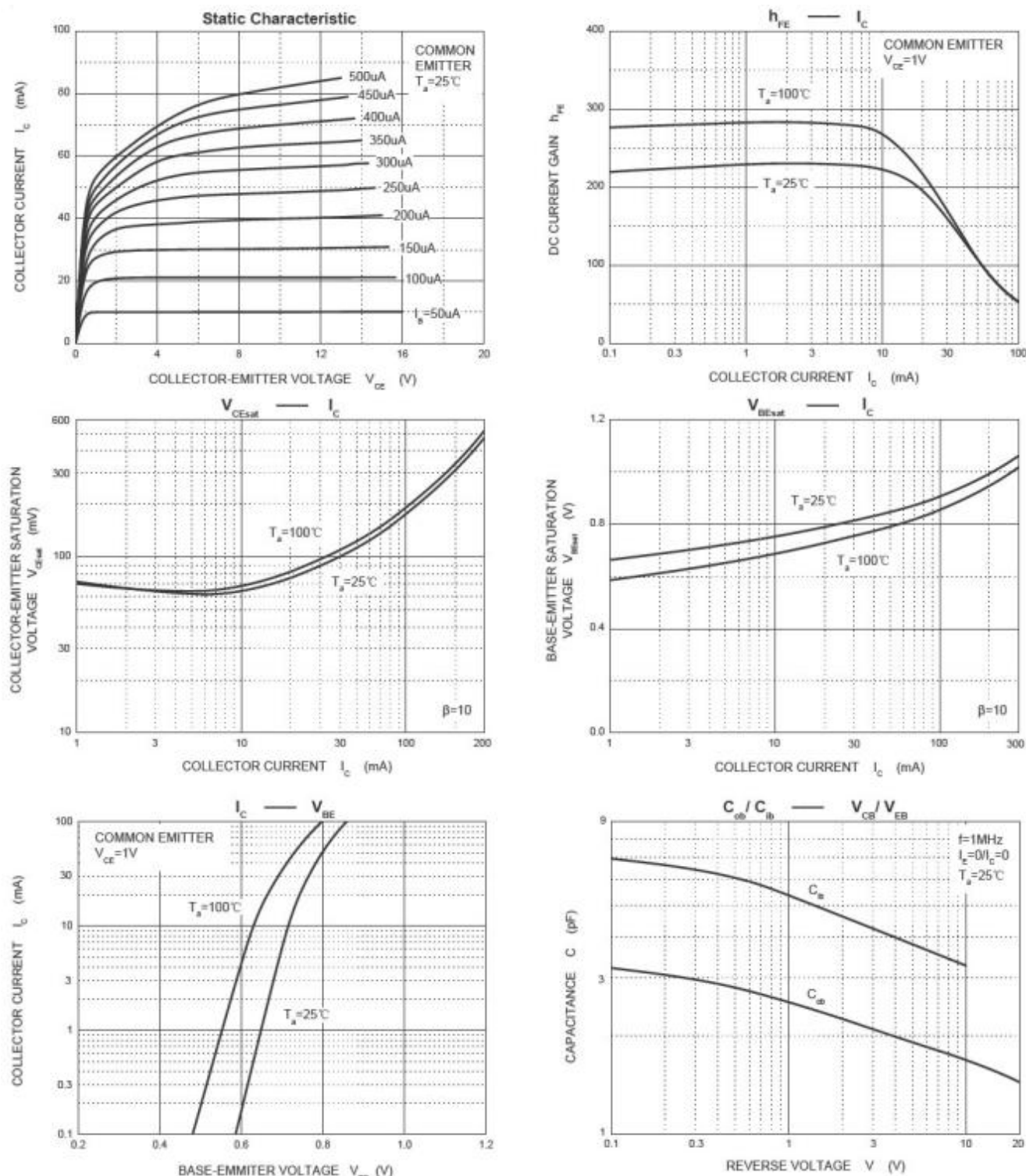
6. Classification of hFE2

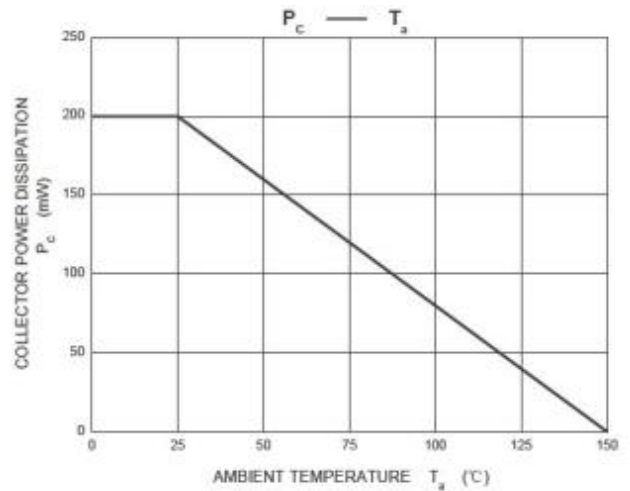
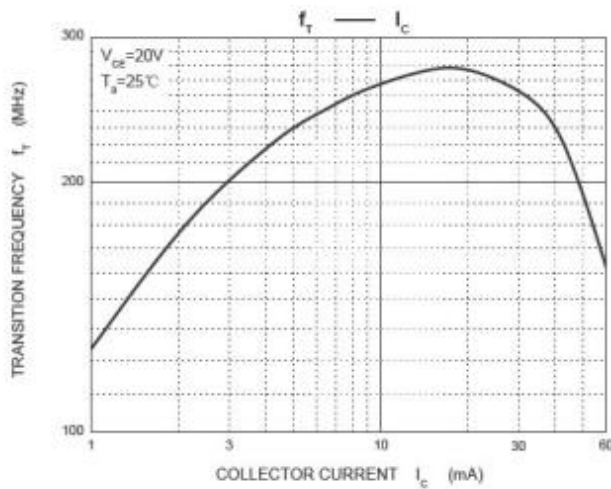
hFE1	100-300	
RANK	L	H
RANGE	100-200	200-300
MARKING	1AM	

7. Ordering Information (Example)

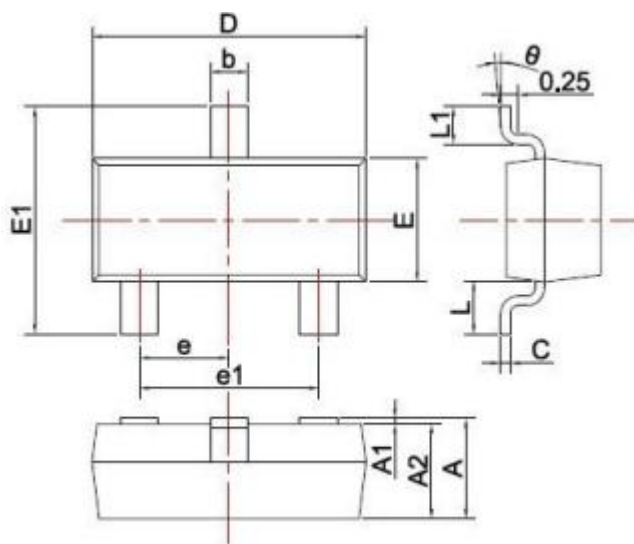
Reel Size	Minimum Package	Inner Box	Outer Carton	Unit Weight
7 Inch	3000pcs	45000pcs	180000pcs	0.008g

8. Typical characteristics





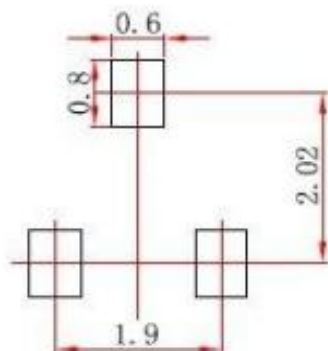
9. Packag Outline Dimensions



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.900	1.150
A1	0.000	0.100
A2	0.900	1.050
b	0.300	0.500
c	0.080	0.150
D	2.800	3.000
E	1.200	1.400
E1	2.250	2.550
e	0.950TYP	
e1	1.800	2.000
L	0.550REF	
L1	0.300	0.500
θ	0°	8°

10. Precautions: PCB Design



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05mm$.
3. The pad layout is for reference purposes only.