

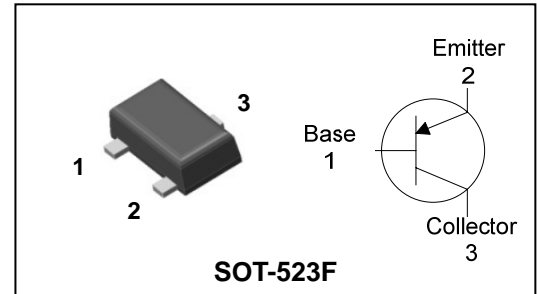
Descriptions

- Small signal application
- Switching application

Features

- Low collector saturation voltage
- Low collector output capacitance
- Complementary pair with MMBT3904EF

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
MMBT3906EF	Y □ ① ②	SOT-523F

① Device Code ② Year & Week Code

Absolute Maximum Ratings

Ta=25°C

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V _{CB0}	-40	V
Collector-emitter voltage	V _{CEO}	-40	V
Emitter-base voltage	V _{EBO}	-5	V
Collector current	I _C	-200	mA
Collector power dissipation	P _C	150	mW
Junction temperature	T _J	150	°C
Storage temperature range	T _{stg}	-55 ~ 150	°C

Electrical Characteristics

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-base breakdown voltage	BV _{CB0}	I _C = -10μA, I _E = 0	-40	-	-	V
Collector-emitter breakdown voltage	BV _{CEO}	I _C = -1mA, I _B = 0	-40	-	-	V
Emitter-base breakdown voltage	BV _{EBO}	I _E = -10μA, I _C = 0	-5	-	-	V
Collector cut-off current	I _{CEx}	V _{CE} = -30V, V _{EB} = -3V	-	-	-50	nA
DC current gain	h _{FE}	V _{CE} = -1V, I _C = -10mA	100	-	300	-
Collector-emitter saturation voltage	V _{CE(sat)}	I _C = -50mA, I _B = -5mA	-	-	-0.4	V
Transition frequency	f _T	V _{CE} = -20V, I _C = -10mA, f = 100MHz	250	-	-	MHz
Collector output capacitance	C _{ob}	V _{CB} = -5V, I _E = 0, f = 1MHz	-	-	4.5	pF
Delay time	t _d	V _{CC} = -3V _{dc} , V _{BE(off)} = -0.5V _{dc} , I _C = -10mA _{dc} , I _{B1} = -1mA _{dc}	-	-	35	ns
Rise time	t _r		-	-	35	ns
Storage time	t _s	V _{CC} = -3V _{dc} , I _C = -10mA _{dc} , I _{B1} = I _{B2} = -1mA _{dc}	-	-	225	ns
Fall Time	t _f		-	-	75	ns

Electrical Characteristic Curves

Fig. 1 P_C - T_a

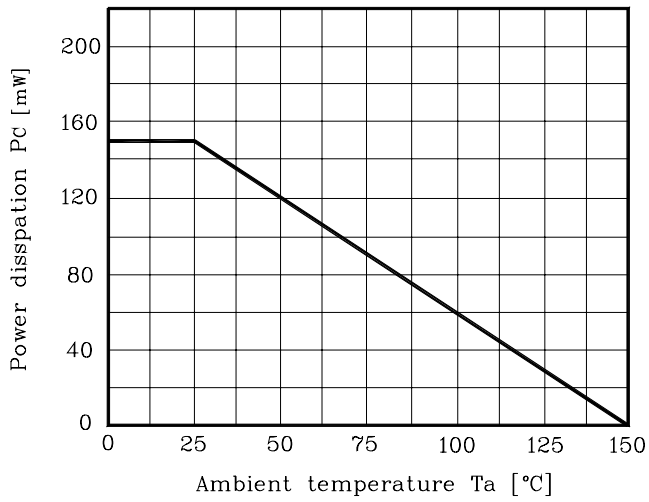


Fig. 2 h_{FE} - I_C

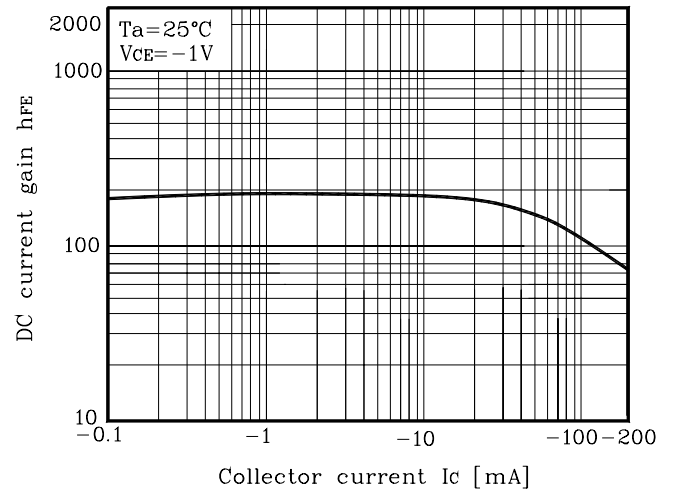
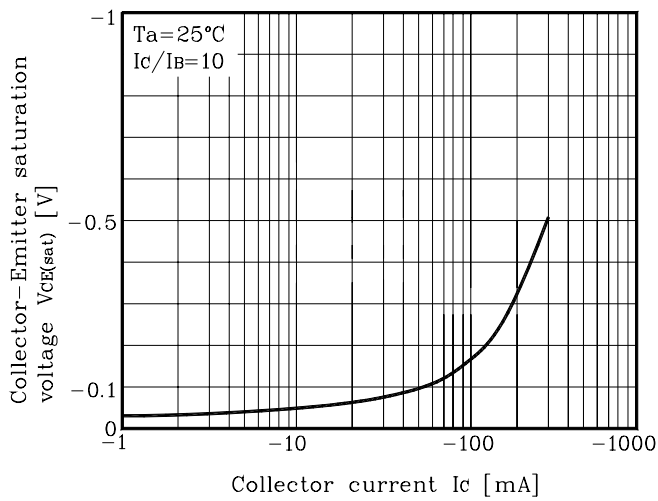
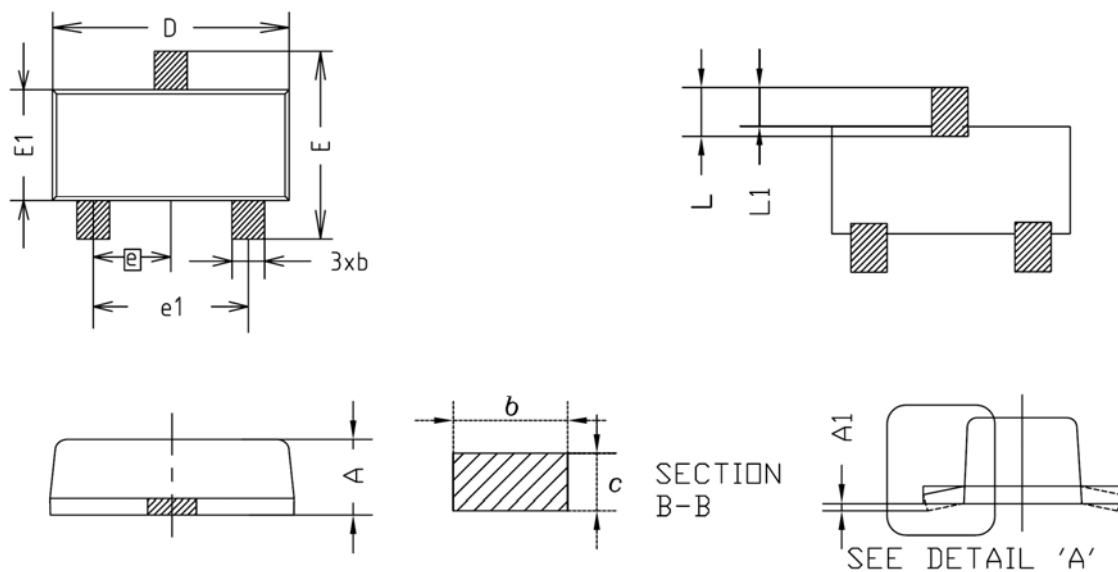


Fig. 3 $V_{CE(sat)}$ - I_C

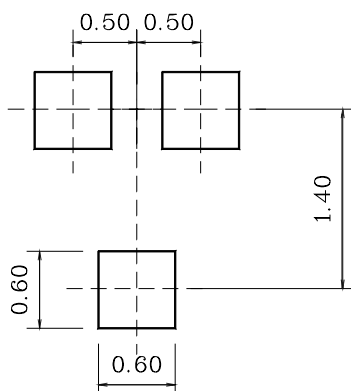


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	0.63	0.68	0.73	
A1	0.00	-	0.10	
A2	-	-	-	
b	0.25	0.30	0.35	
c	0.04	0.11	0.20	
D	1.50	1.60	1.70	
E	1.50	1.60	1.70	
E1	0.78	0.88	0.98	
e	0.50BSC			
e1	0.90	-	1.10	
L	0.34	0.44	0.54	
L1	0.28	0.34	0.43	

※Recommend PCB solder land [Unit: mm]



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