

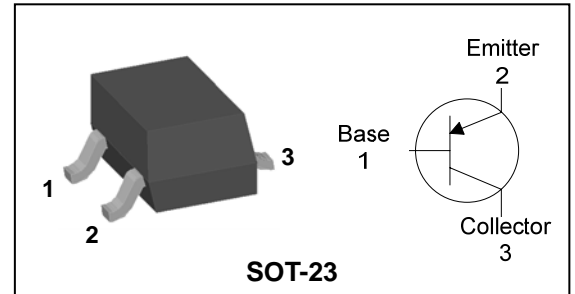
Descriptions

- General purpose application
- Switching application

Features

- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with MMBT2222A

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
MMBT2907A	2F □ ① ②	SOT-23

① Device Code ② Year&Week Code

Absolute maximum ratings

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

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	-60	V
Collector-Emitter voltage	V_{CEO}	-60	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-0.6	A(DC)
	I_{CP}^*	-1.2	A(Pulse)
Collector dissipation	P_C^{**}	350	mW
Junction temperature	T_j	150	$^{\circ}\text{C}$
Storage temperature range	T_{stg}	-55~150	$^{\circ}\text{C}$

 * : Single pulse, $t_p=300\mu\text{s}$

 ** : Package mounted on 99.5% alumina $10\times 8\times 0.6\text{mm}$

Electrical Characteristics

Ta=25°C

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV_{CBO}	$I_C = -10\mu A, I_E = 0$	-60	-	-	V
Collector-Emitter breakdown voltage	BV_{CEO}	$I_C = -1mA, I_B = 0$	-60	-	-	V
Emitter-Base breakdown voltage	BV_{EBO}	$I_E = -10\mu A, I_C = 0$	-5	-	-	V
Collector cut-off current	I_{CBO}	$V_{CB} = -60V, I_E = 0$	-	-	-20	nA
DC current gain	h_{FE}	$V_{CE} = -10V, I_C = -10mA$	100	-	-	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C = -150mA, I_B = -15mA$	-	-	-0.4	V
Transition frequency	f_T	$V_{CE} = -5.0V, I_C = -20mA,$ $f = 100MHz$	200	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	-	8	pF
Turn-on time	t_{on}	$V_{CC} = -30V_{dc}, I_C = -150mA_{dc},$ $I_{B1} = -15mA_{dc}$	-	-	45	ns
Delay time	t_d		-	-	10	ns
Rise time	t_r		-	-	40	ns
Turn-off time	t_{off}	$V_{CC} = -6.0V_{dc}, I_C = -150mA_{dc},$ $I_{B1} = I_{B2} = -15mA_{dc}$	-	-	100	ns
Storage time	t_s		-	-	80	ns
Fall time	t_f		-	-	30	ns

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

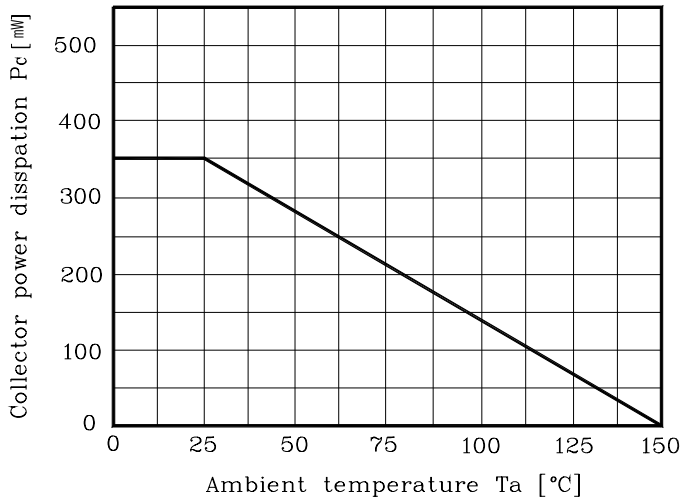


Fig. 2 $h_{FE} - I_C$

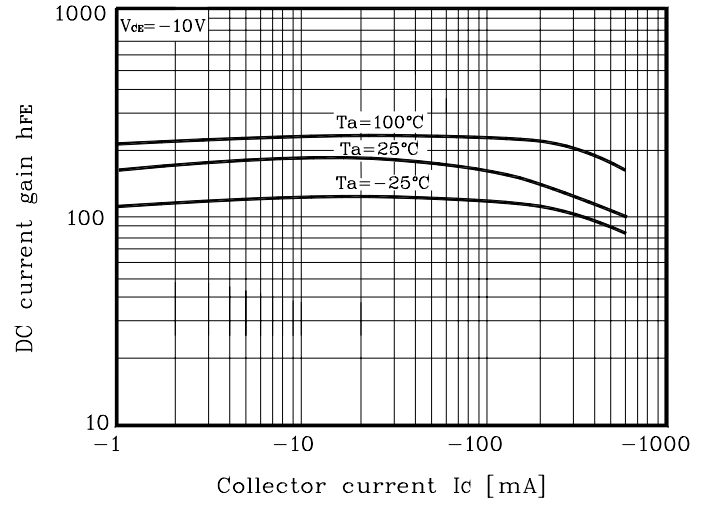


Fig. 3 $I_C - V_{CE(SAT)}$

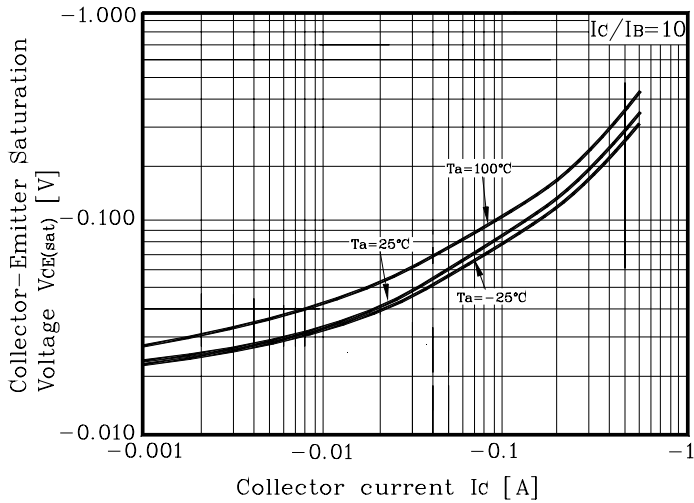


Fig. 4 $I_C - V_{BE(SAT)}$

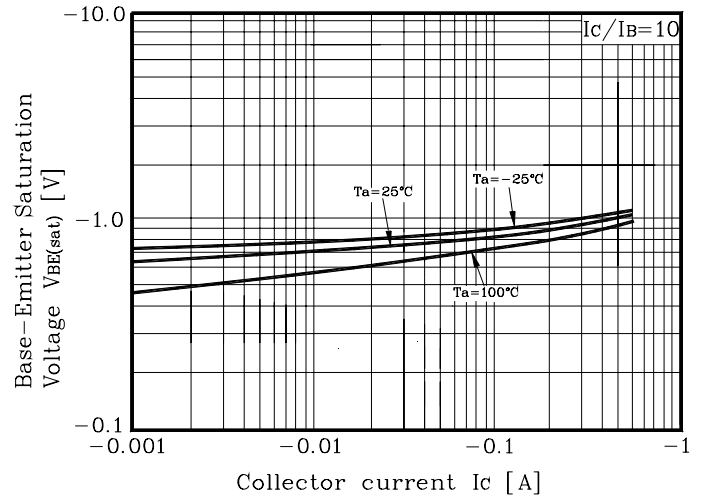
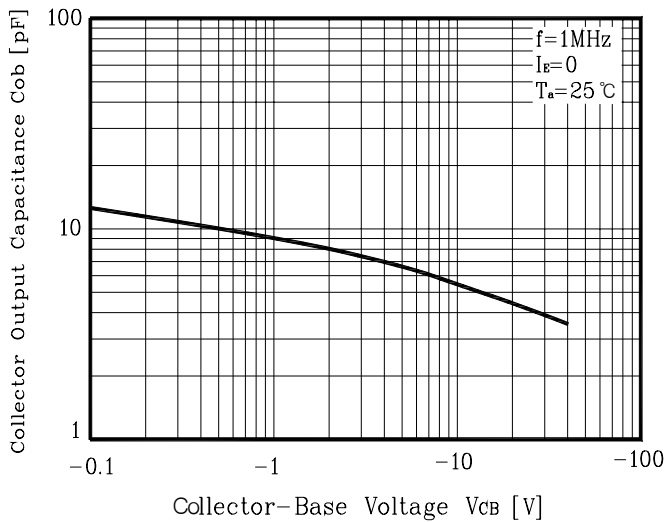
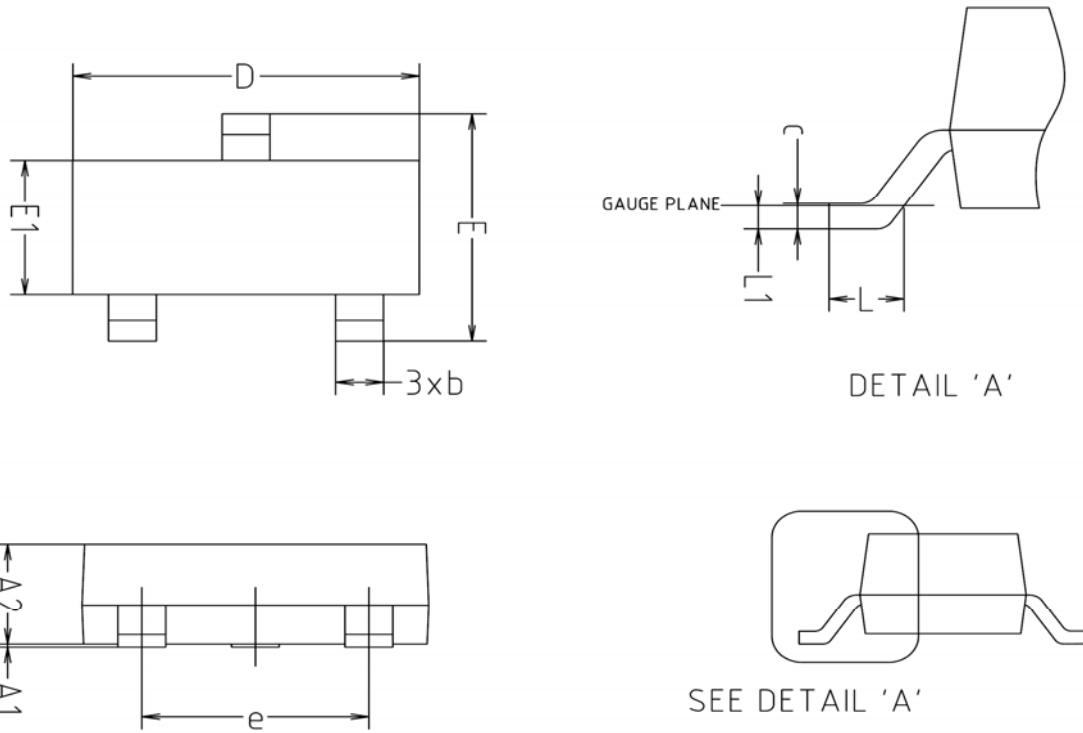


Fig. 5 $C_{ob} - V_{CB}$

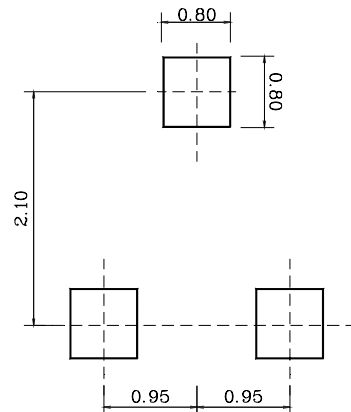


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A1	0.00	-	0.10	
A2	0.82	-	1.02	
b	0.39	0.42	0.45	
c	0.09	0.12	0.15	
D	2.80	2.90	3.00	
E	2.20	2.40	2.60	
E1	1.20	1.30	1.40	
e	1.90BSC			
L	0.20	-	-	
L1	0.12BSC			

※Recommend PCB solder land [Unit: mm]



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