

Descriptions

- General purpose application
- Switching application

Features

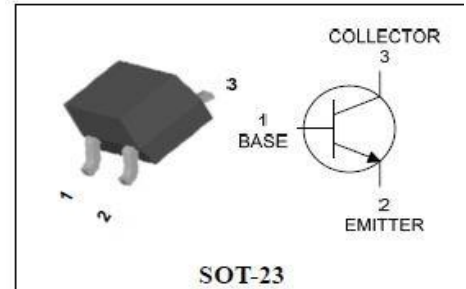
- Low Leakage current
- Low collector saturation voltage enabling low voltage operation
- Complementary pair with KBT2907A

Ordering Information

Type NO.	Marking	Package Code
KBT2222A	IP □ • ① ②	SOT-23

① Device Code ② Year & Week Code • Dalian

PIN Connection



Absolute maximum ratings

Ta=25 °C

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V _{CB0}	75	V
Collector-Emitter voltage	V _{CEO}	40	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	°C
Storage temperature range	T _{stg}	-50~150	°C

* : Single pulse, tp= 300 μs

** : Package mounted on 99.5% alumina 10 8 0.6mm

Thermal Characteristics

Characteristic	Symbol	Ratings	Unit
Thermal resistance Junction-Ambient	R _{th(J-A)} ^{**}	357	C/W
Thermal resistance Junction-Case	R _{th(J-C)} ^{**}	200	C/W

** : Package mounted on 99.5% alumina 10 8 0.6mm

Electrical Characteristics**T_a=25 °C**

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Base breakdown voltage	BV _{CBO}	I _C =10μA, I _E =0	75	-	-	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 _{CBO}	V _{CB} =75V, I _E =0	-	-	20	nA
Collector cut-off current	I _{CEX}	V _{CE} =30V, V _{EB} =0.5V	-	-	50	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} =20V, I _C =20mA, f=100MHz	250	-	-	MHz
Collector output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=1MHz	-	-	8	pF
Delay time	t _d	V _{CC} =30V _{dc} , V _{BE(off)} =0.5V _{dc} , I _C =150mA _{dc} , I _{B1} =15mA _{dc}	-	-	10	ns
Rise time	t _r		-	-	25	ns
Storage time	t _s	V _{CC} =30V _{dc} , I _C =150mA _{dc} , I _{B1} =I _{B2} =15mA _{dc}	-	-	225	ns
Fall Time	T _f		-	-	60	ns

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

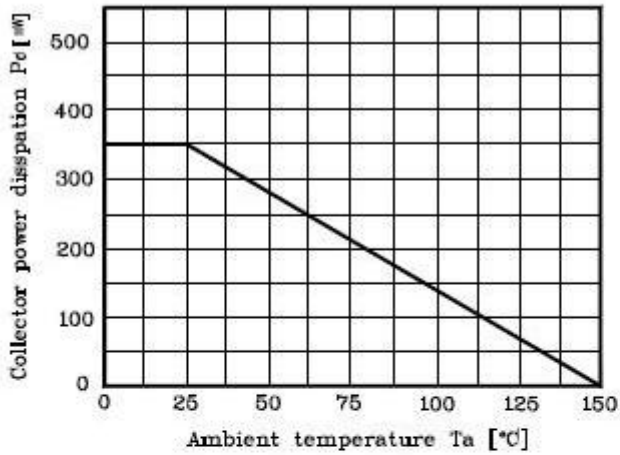


Fig. 2 $h_{FE} - I_C$

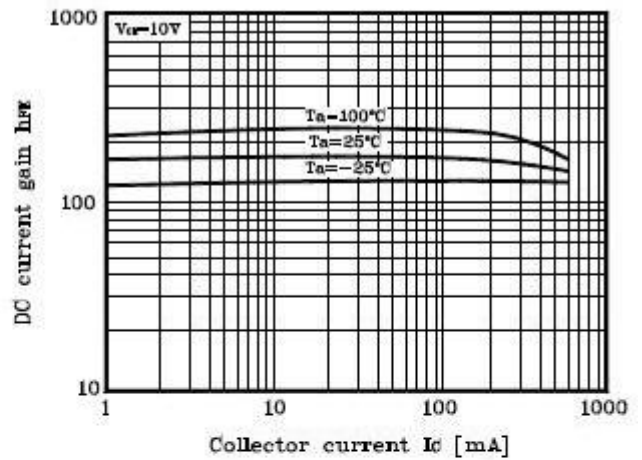


Fig. 3 $I_C - V_{CE(SAT)}$

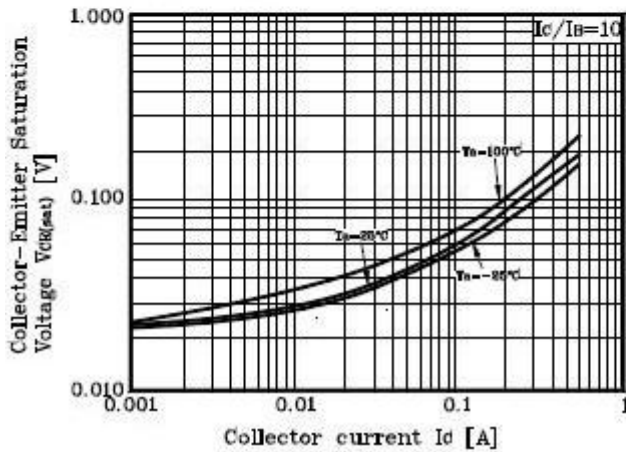


Fig. 4 $I_C - V_{BE(SAT)}$

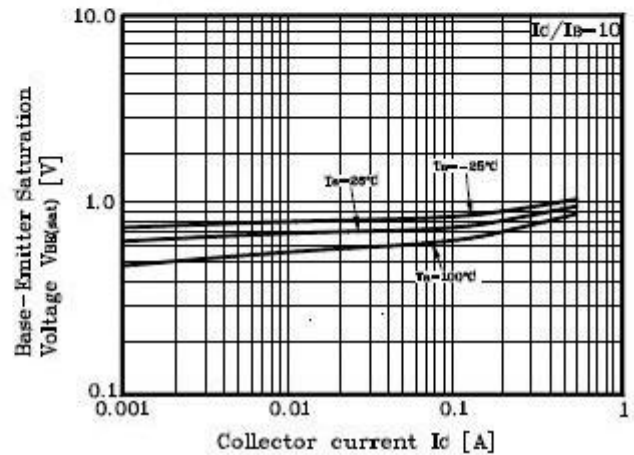
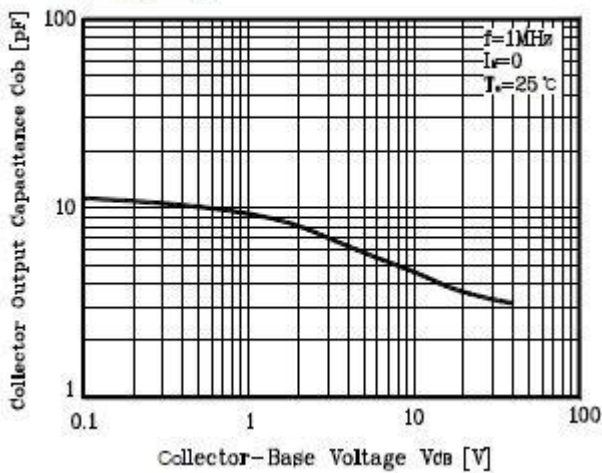
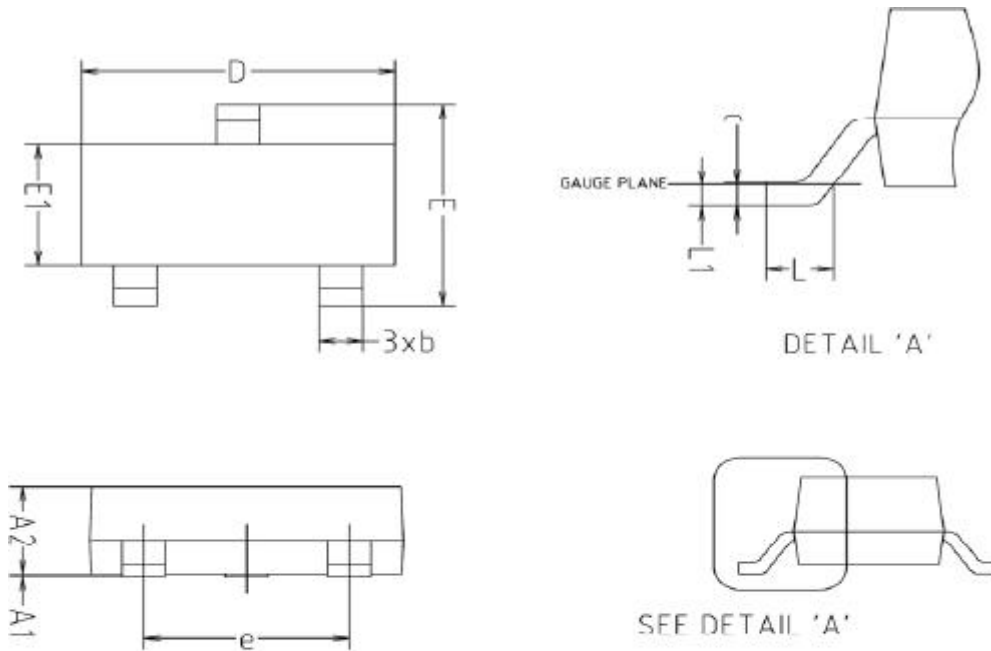


Fig. 5 $C_{ob} - V_{CB}$

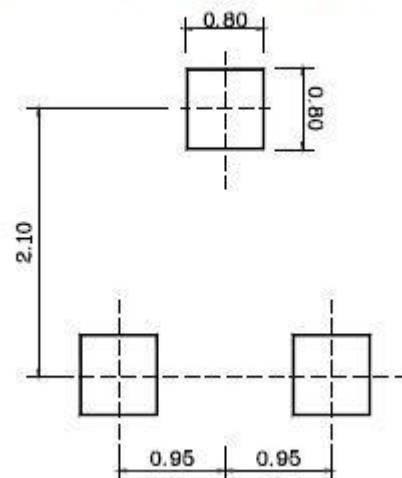


Outline Dimension (Unit: mm)



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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