KODENSHI AUK

STA3250Q

PNP Silicon Transistor

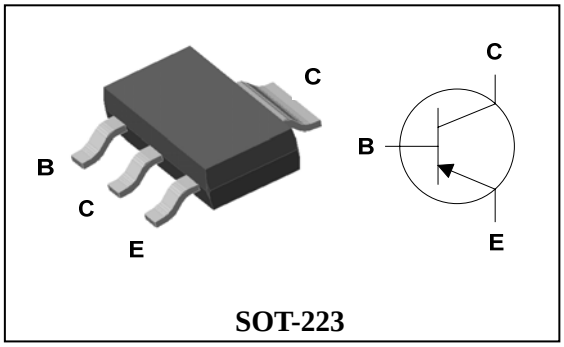
Applications

- Power amplifier application
- High current switching application

Features

- Low saturation voltage:
  $V_{CE(sat)}$=-0.15V Typ. @ I_C=-1A, I_B=-50mA
- Large collector current capacity: I_C=-2A
- Small and compact SMD type package

PIN Connection



SOT-223

Ordering Information

Type NO.	Marking	Package Code
STA3250Q	STA3250□	SOT-223

□ : Year & Week Code

Absolute Maximum Ratings

[Ta=25℃]

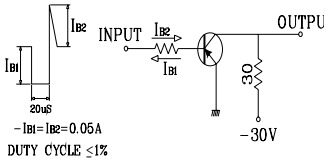
Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-2	A
Collector Power dissipation	P_C	1.1	W
	P_C*	1.5	W
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55~150	°C

Characteristic		Symbol	Typ.	Max	Unit
Thermal resistance	Junction-ambient	$R_{th(J-A)}$	-	113.6	℃/W
		$R_{th(J-A)}$ *	-	83.3	

* Device mounted on ceramic substrate ($250mm^2$ x 0.8t)

Electrical Characteristics

[Ta=25℃]

Characteristic		Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-emitter breakdown voltage		BV_{CEO}	I_C=-1mA, I_B=0	-50	-	-	V
Collector cut-off current		I_{CBO}	V_{CB}=-50V, I_E=0	-	-	-0.1	μA
Emitter cut-off current		I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-0.1	μA
DC current gain		h_{FE}	V_{CE}=-2V, I_C=-0.5A*	120	-	240	
		h_{FE}	V_{CE}=-2V, I_C=-1.5A*	40	-	-	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I_C=-1A, I_B=-0.05A*	-	-	-0.35	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I_C=-1A, I_B=-0.05A*	-	-	-1.2	V
Transition frequency		f_T	V_{CE}=-2V, I_C=-0.05A	-	215	-	MHz
Collector output capacitance		C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	24	-	pF
Switching Time	Turn-on Time	t_{on}		-	100	-	nS
	Storage Time	t_{stg}		-	300	-	
	Fall Time	t_f		-	50	-	

*: Pulse test : t_P≤300μs, Duty cycle≤2%

Electrical Characteristic Curves

Fig. 1 P_C - T_a

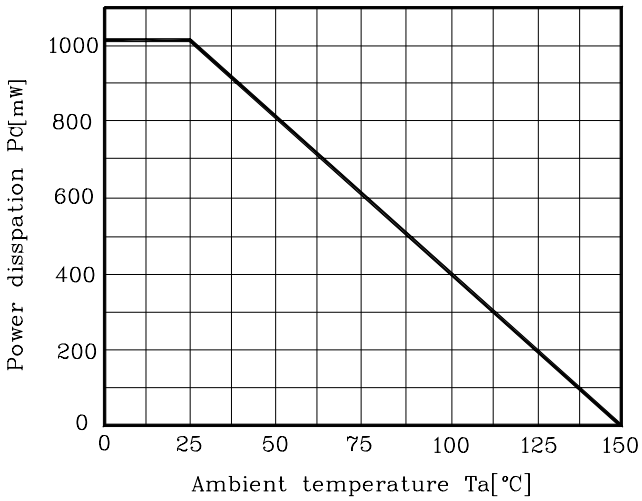


Fig. 2 I_C - V_{BE}

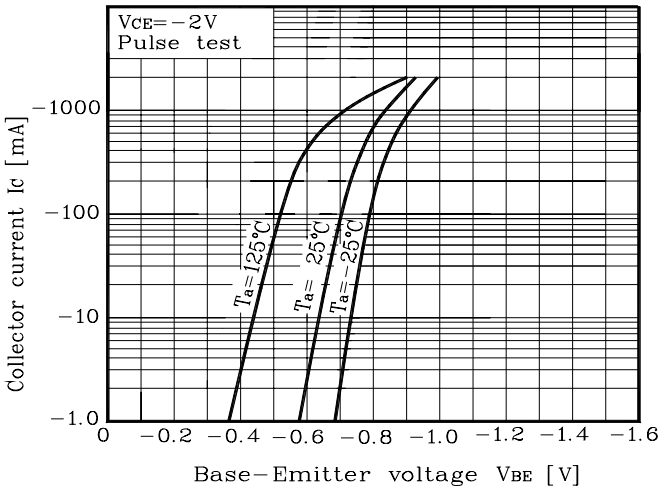


Fig. 3 I_C - V_{CE}

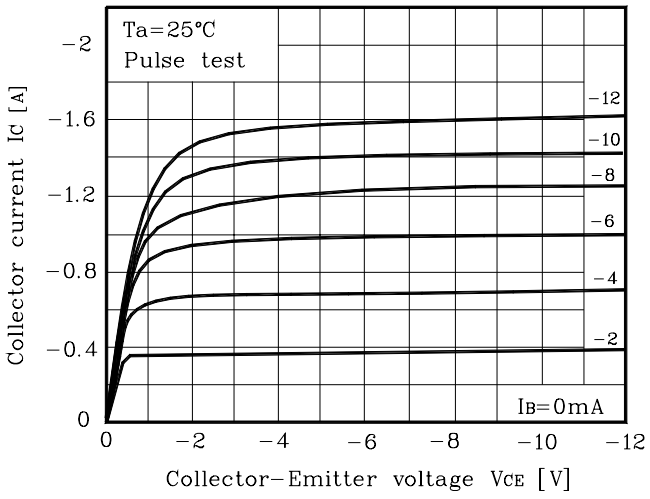


Fig. 4 h_{FE} - I_C

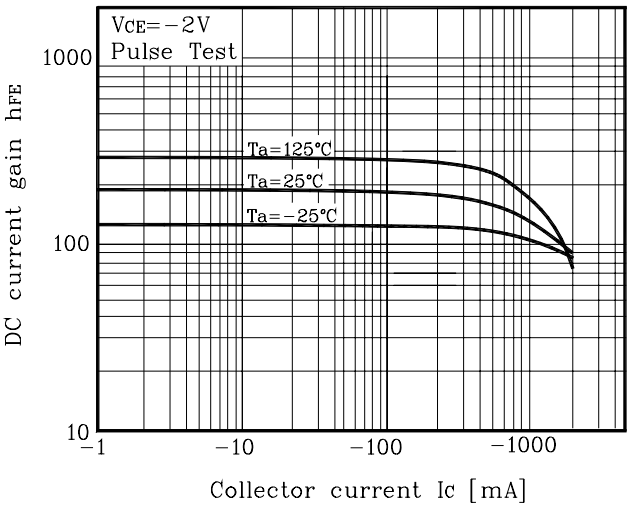


Fig. 5 $V_{CE(sat)}$ - I_C

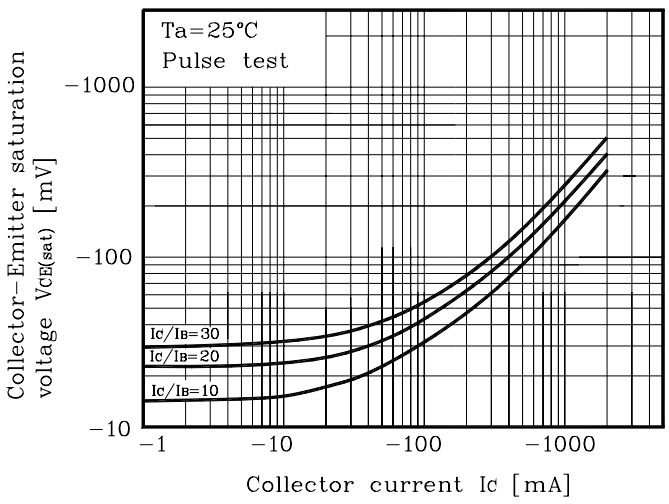
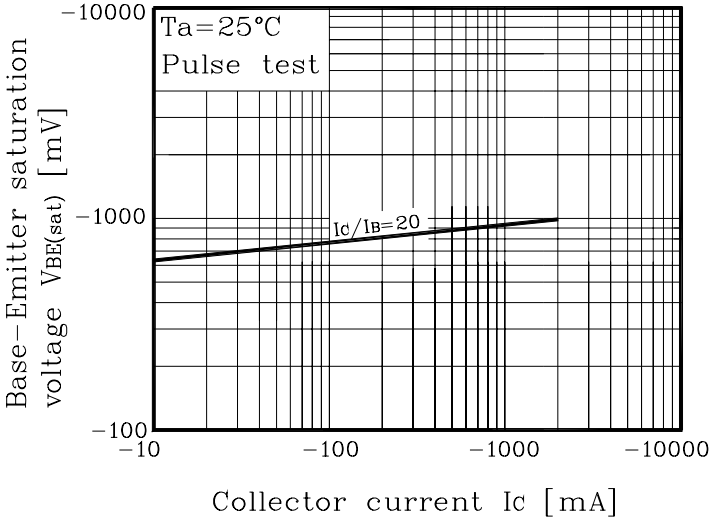


Fig. 6 $V_{BE(sat)}$ - I_C



Electrical Characteristic Curves

Fig. 7 C_{Ob} - V_{CB}

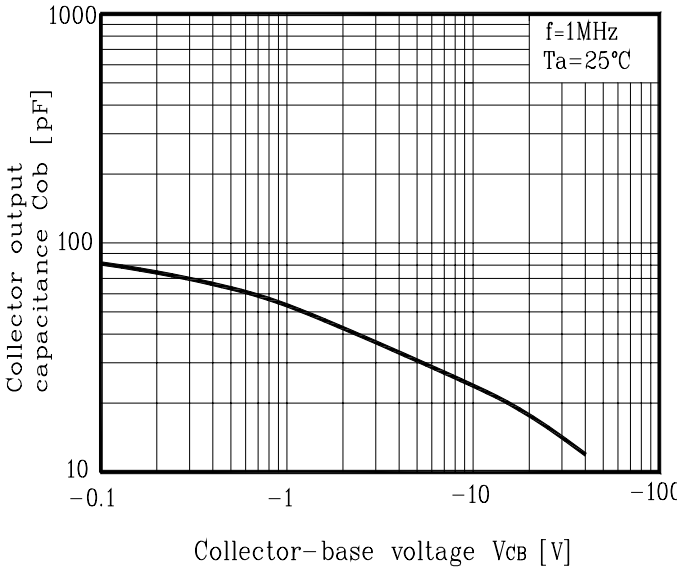
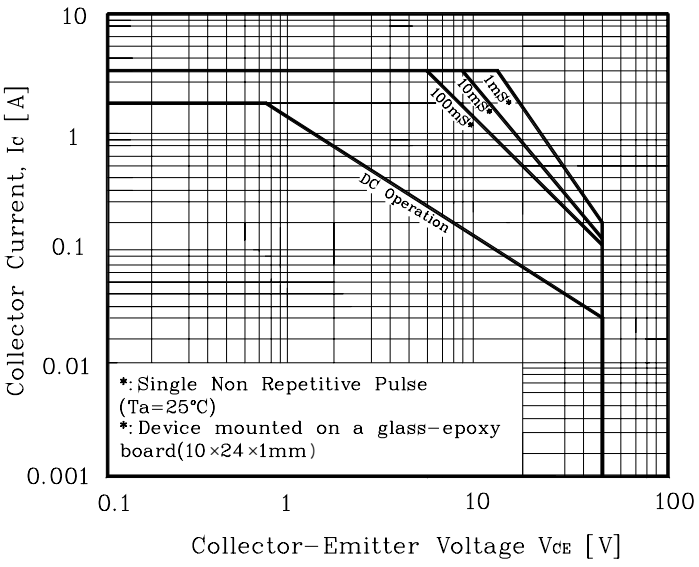
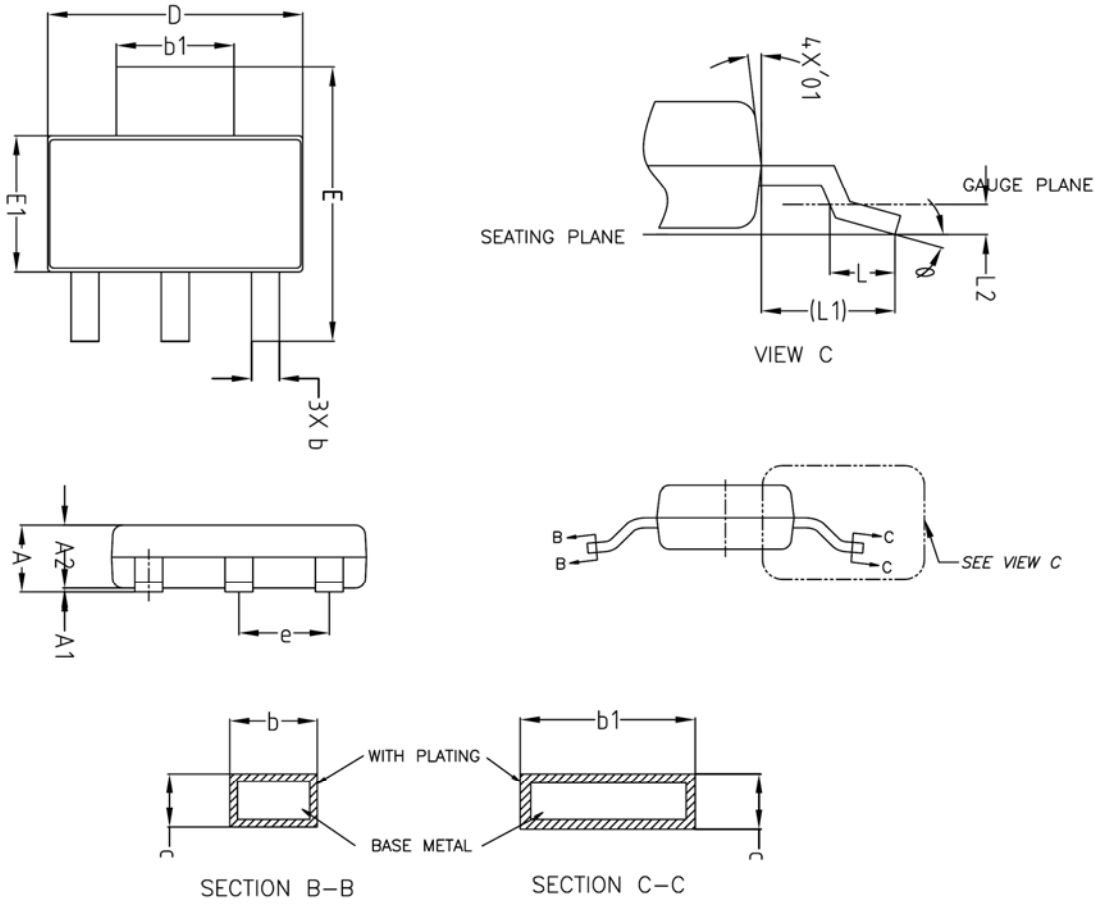


Fig. 8 Safe Operating Area

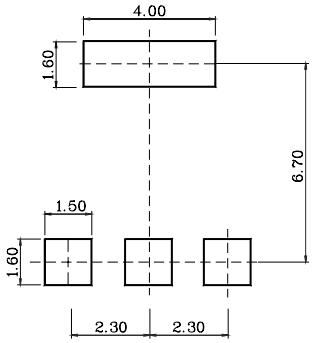


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	–	–	1.80	
A1	0.00	–	0.10	
A2	1.60	1.65	1.70	
b	0.68	–	0.76	
b1	2.95	–	3.07	
c	0.23	–	0.28	
D	6.40	6.50	6.60	
E	6.80	7.00	7.20	
E1	3.40	3.50	3.60	
e	2.30 BSC			
L	0.45	–	0.65	
L1	1.75 REF			
L2	0.10 BSC			
θ	0°	–	10°	
θ1	5°	–	10°	

※ Recommend PCB solder land [Unit: mm]



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