

# **STA3250D**

**PNP Silicon Transistor** 

# RoHS 🔊

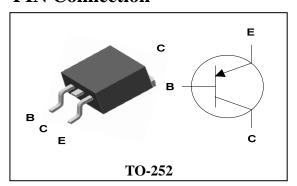
### **Applications**

- Power amplifier application
- High current switching application

#### **Features**

- Low saturation voltage:  $V_{CE(sat)}$ =-0.15V Typ. @  $I_C$ =-1A,  $I_B$ =-50mA
- $\bullet$  Large collector current capacity:  $I_C = -2A$
- Small and compact SMD type package
- "Green" device and RoHS compliant device
- Available in full lead (Pb)-free device

#### **PIN Connection**



**Ordering Information** 

Type NO.	Marking	Package Code
STA3250D	STA3250□	TO-252

☐ : Year & Week Code

#### **Absolute Maximum Ratings**

[Ta=25°C]

Characteristic	Symbol	Rating	Unit	
Collector-base voltage	$V_{CBO}$	-50	V	
Collector-emitter voltage	$V_{\text{CEO}}$	-50	V	
Emitter-base voltage	$V_{EBO}$	-5	V	
Collector current	$I_{C}$	-2	A(DC)	
Collector current	I <sub>CP</sub> *	-4	A(Pulse)	
Callacter Down discipation	P <sub>C</sub> (Ta= 25°C)	1	W	
Collector Power dissipation	P <sub>C</sub> ( $T_C$ = 25°C) 10		W	
Junction temperature	Tı	150	°C	
Storage temperature range	$T_{stg}$	-55~150	°C	

<sup>\*:</sup> Single pulse, tp=  $300 \mu s$ 

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## **Electrical Characteristics**

[Ta=25℃]

Charac	eteristic	Symbol	Test Condition	Min.	Тур.	Max.	Unit
Collector-emitter b	oreakdown voltage	BV <sub>CEO</sub>	I <sub>C</sub> =-1mA, I <sub>B</sub> =0 -50		-	-	V
Collector cut-off cu	Collector cut-off current $I_{CBO}$ $V_{CB}=$		V <sub>CB</sub> =-50V, I <sub>E</sub> =0	-	-	-0.1	μА
Emitter cut-off current		I <sub>EBO</sub>	V <sub>EB</sub> =-5V, I <sub>C</sub> =0	-	-	-0.1	μА
DC current gain		h <sub>FE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-0.5A*	120 - 240			
		h <sub>FE</sub>	V <sub>CE</sub> =-2V, I <sub>C</sub> =-1.5A*	40	-	-	
Collector-emitter saturation voltage		$V_{CE(sat)}$	I <sub>C</sub> =-1A, I <sub>B</sub> =-0.05A*	-	-	-0.35	V
Base-emitter saturation voltage		$V_{BE(sat)}$	I <sub>C</sub> =-1A, I <sub>B</sub> =-0.05A*	-	-	-1.2	V
Transition frequency		f⊤	V <sub>CE</sub> =-2V, I <sub>C</sub> =-0.05A	-	215	-	MHz
Collector output capacitance		C <sub>ob</sub>	$V_{CB}$ =-10V, $I_E$ =0, f=1MHz	-	24	-	pF
Switching Time	Turn-on Time	t <sub>on</sub>	IBI INPUT IBE OUTPUT  OUTPUT	-	100	-	
	Storage Time	t <sub>stg</sub>		-	300	-	nS
	Fall Time	t <sub>f</sub>		-	50	-	

<sup>\*:</sup> Pulse test :  $t_P \le 300 \mu s$ , Duty cycle  $\le 2\%$ 

#### **Electrical Characteristic Curves**

Fig.  $1 P_C - T_a$ 

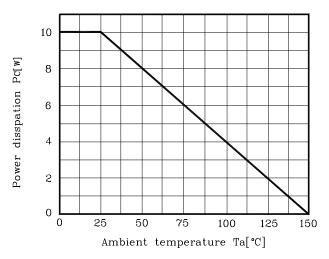


Fig. 3  $I_C$  -  $V_{CE}$ 

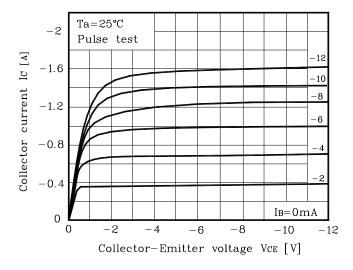


Fig. 5  $V_{\text{CE(sat)}}$  -  $I_{\text{C}}$ 

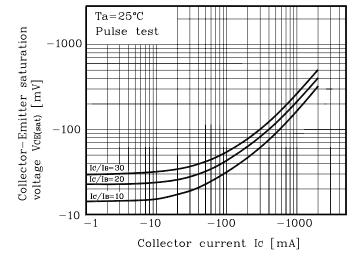


Fig. 2  $I_{C}\;$  -  $V_{BE}$ 

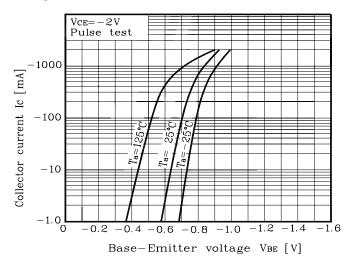


Fig. 4  $h_{FE}$  -  $I_{C}$ 

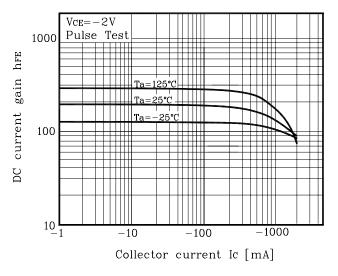
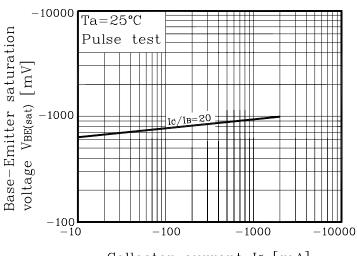


Fig. 6  $V_{BE(sat)}$  -  $I_{C}$ 



Collector current Ic [mA]

## **Electrical Characteristic Curves**

Fig. 7  $C_{\text{Ob}}$  -  $V_{\text{CB}}$ 

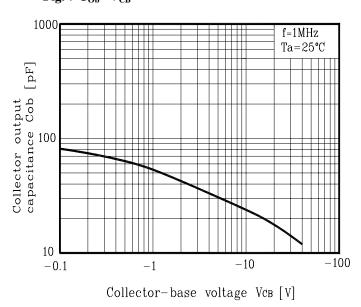
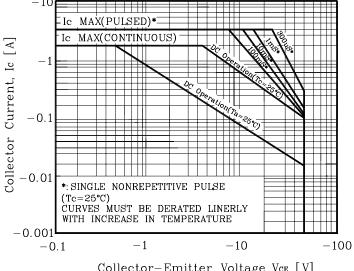
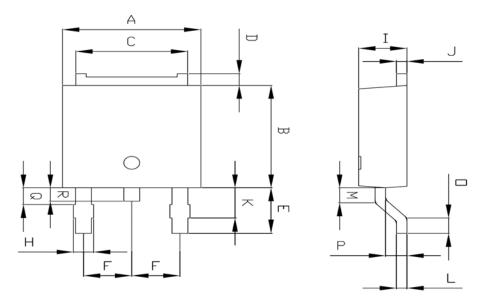


Fig. 8 Safe Operating Area



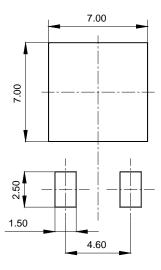
Collector-Emitter Voltage Vce [V]

# **Outline Dimension**



	MILLIMETERS			NOTE
SYMBOL	MINIMUM	NOMINAL	MAXIMUM	INOTE
А	6.40	6.60	6.80	
В	5.90	6.10	6.30	
С	5.04	5.34	5.64	
D	0.50	0.70	0.90	
Е	2.50	2.70	2.90	
F	2.10	2.30	2.50	
Н		0.96 MAX		
- 1	2.20	2.30	2.40	
J	0.40	0.50	0.60	
K	1.60	1.80	2.00	
L	0.40	0.50	0.60	
М	0.81	0.91	1.01	
0	0.80	0.90	1.00	
Р	0.90	1.00	1.10	
Q		0.95 MAX		
R	0.60	0.80	1.00	

### \*Recommend PCB solder land [Unit: mm]



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