



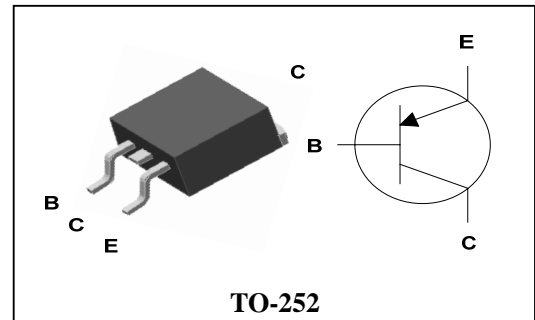
Applications

- 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
- “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

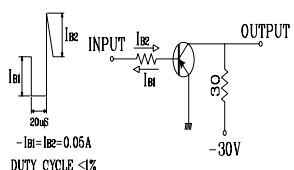
[Ta=25°C]

Characteristic	Symbol	Rating	Unit
Collector-base voltage	V_{CBO}	-50	V
Collector-emitter voltage	V_{CEO}	-50	V
Emitter-base voltage	V_{EBO}	-5	V
Collector current	I_C	-2	A(DC)
	I_{CP}^*	-4	A(Pulse)
Collector Power dissipation	$P_C(T_a = 25^\circ C)$	1	W
	$P_C(T_C = 25^\circ C)$	10	W
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55~150	°C

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

Electrical Characteristics

[Ta=25°C]

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit	
Collector-emitter breakdown voltage	BV_{CEO}	$I_C = -1\text{mA}, I_B = 0$	-50	-	-	V	
Collector cut-off current	I_{CBO}	$V_{CB} = -50\text{V}, I_E = 0$	-	-	-0.1	μA	
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}, I_C = 0$	-	-	-0.1	μA	
DC current gain	h_{FE}	$V_{CE} = -2\text{V}, I_C = -0.5\text{A}^*$	120	-	240		
	h_{FE}	$V_{CE} = -2\text{V}, I_C = -1.5\text{A}^*$	40	-	-		
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1\text{A}, I_B = -0.05\text{A}^*$	-	-	-0.35	V	
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -1\text{A}, I_B = -0.05\text{A}^*$	-	-	-1.2	V	
Transition frequency	f_T	$V_{CE} = -2\text{V}, I_C = -0.05\text{A}$	-	215	-	MHz	
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}, I_E = 0, f = 1\text{MHz}$	-	24	-	pF	
Switching Time	Turn-on Time	t_{on}	 <p>I_{B1} I_{B2} I_C I_{B1} I_{B2}</p> <p>20μs</p> <p>$-I_{B1} = I_{B2} = 0.05\text{A}$</p> <p>DUTY CYCLE $\leq 2\%$</p> <p>OUTPUT</p> <p>-30V</p>	-	100	-	nS
	Storage Time	t_{stg}		-	300	-	
	Fall Time	t_f		-	50	-	

*: Pulse test : $t_p \leq 300\mu\text{s}$, Duty cycle $\leq 2\%$

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

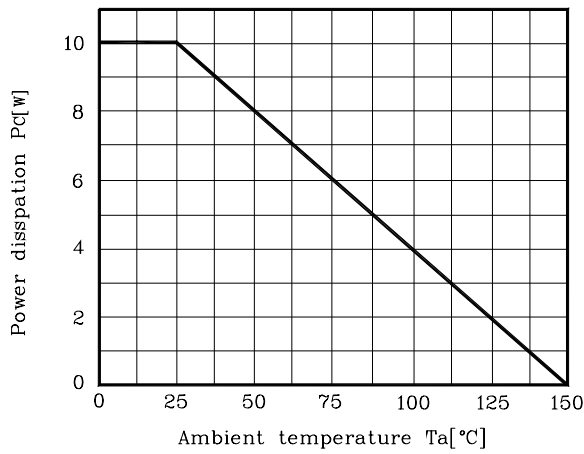


Fig. 2 $I_C - V_{BE}$

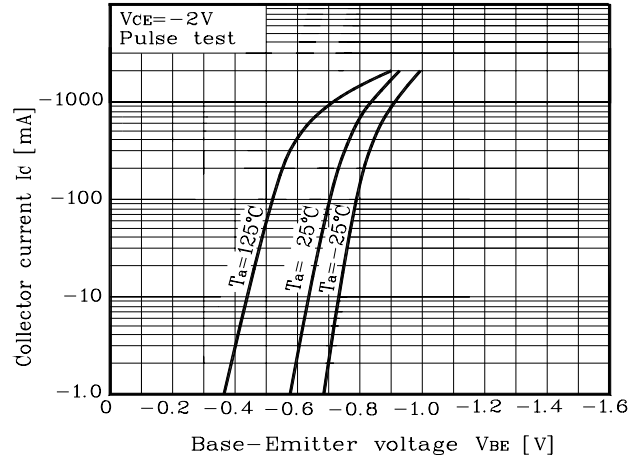


Fig. 3 $I_C - V_{CE}$

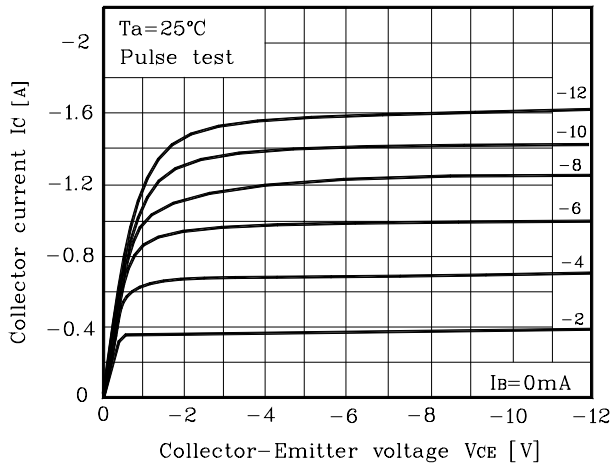


Fig. 4 $h_{FE} - I_C$

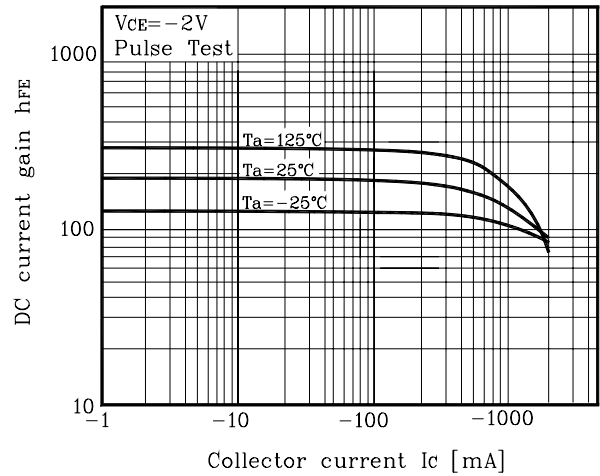


Fig. 5 $V_{CE(sat)} - I_C$

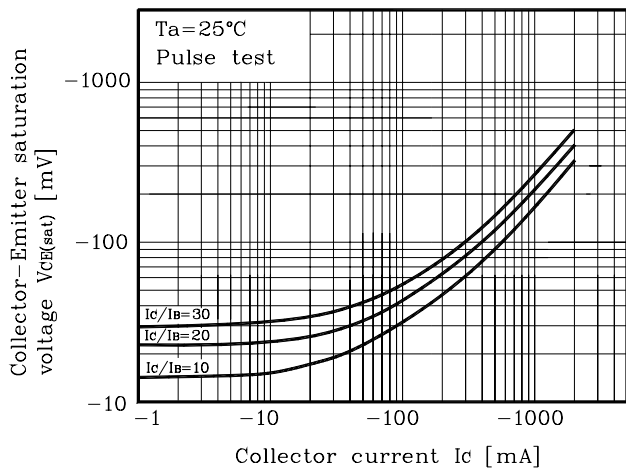
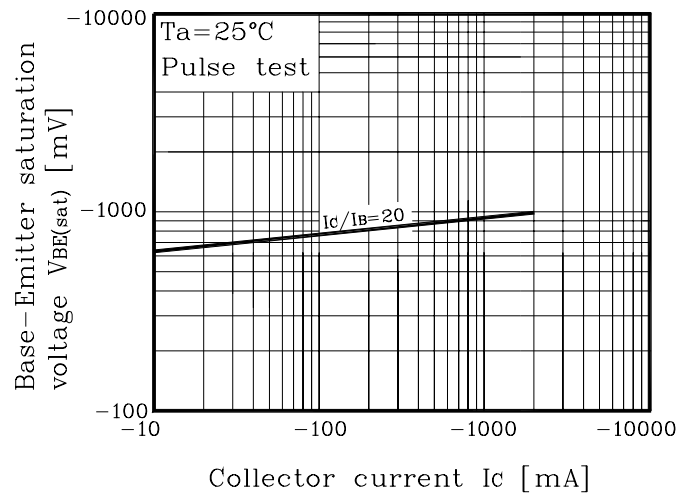


Fig. 6 $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

Fig. 7 $C_{ob} - V_{CB}$

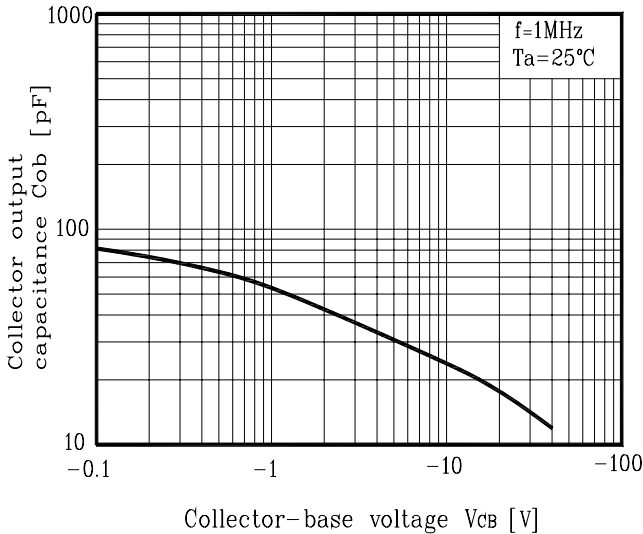
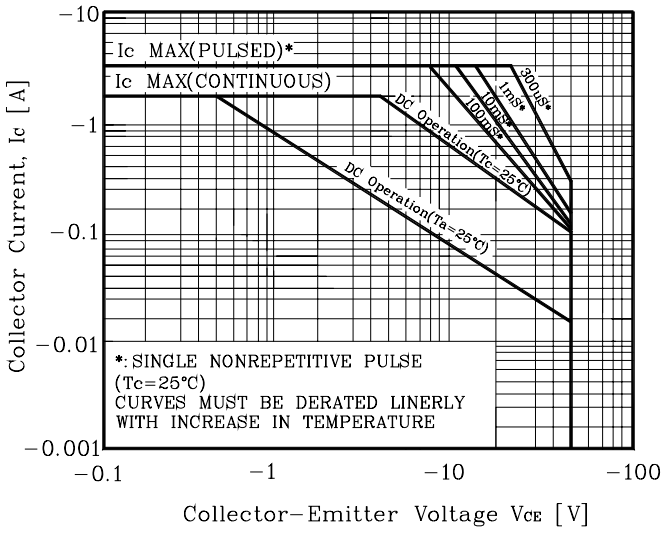
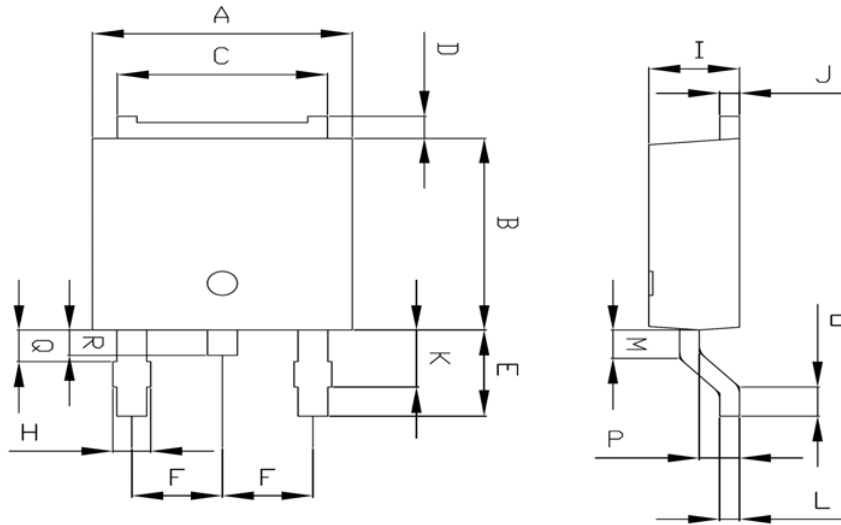


Fig. 8 Safe Operating Area

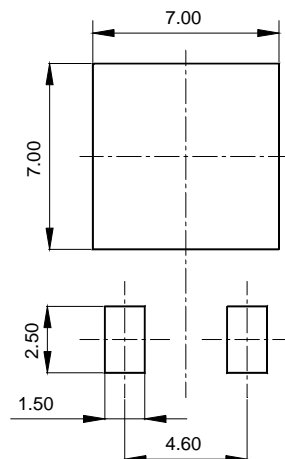


Outline Dimension



SYMBOL	MILLIMETERS			NOTE
	MINIMUM	NOMINAL	MAXIMUM	
A	6.40	6.60	6.80	
B	5.90	6.10	6.30	
C	5.04	5.34	5.64	
D	0.50	0.70	0.90	
E	2.50	2.70	2.90	
F	2.10	2.30	2.50	
H	0.96 MAX			
I	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	
M	0.81	0.91	1.01	
O	0.80	0.90	1.00	
P	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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