

Applications

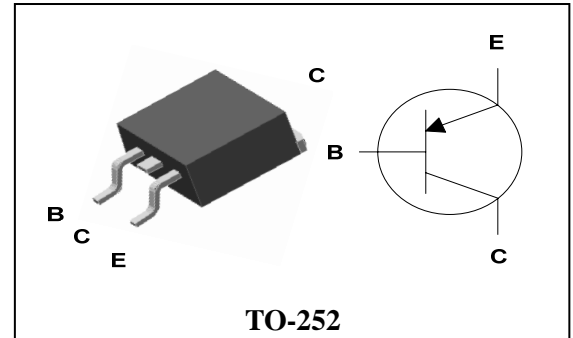
- Power amplifier application
- High current switching application

Features

- Low saturation voltage:
 $V_{CE(sat)} = -0.15V$ Typ. @ $I_C = -1A$, $I_B = -50mA$
- Large collector current capacity: $I_C = -3A$
- "Green" device and RoHS compliant device
- Available in full lead (Pb)-free device



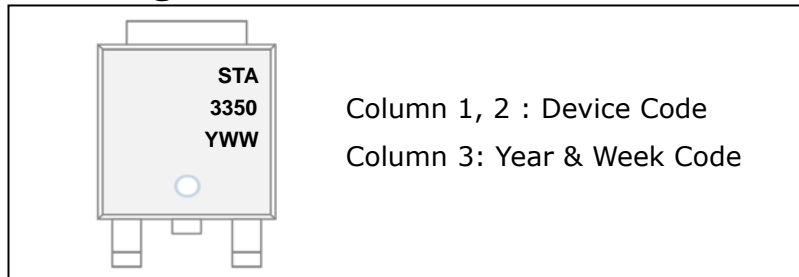
PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STA3350D	STA3350	TO-252

Marking Information



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}	-6	V
Collector current	I_C	-3	A(DC)
	I_{CP}^*	-6	A(Pulse)
Collector Power dissipation	$P_C(T_a = 25^\circ C)$	1.2	W
	$P_C(T_C = 25^\circ C)$	15	W
Junction temperature	T_J	150	°C
Storage temperature range	T_{stg}	-55~150	°C

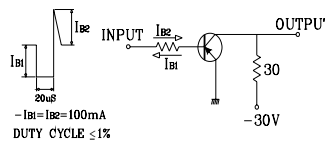
 * : Single pulse, $t_p = 300 \mu s$

Characteristic	Symbol	Typ.	Max	Unit	
Thermal resistance	Junction-ambient	$R_{th(J-A)}$	-	104.1	°C/W
	Junction-case	$R_{th(J-C)}$	-	8.3	°C/W

Electrical Characteristics

[Ta=25°C]

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}	$V_{CB} = -50V, I_E = 0$	-	-	-1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -6V, I_C = 0$	-	-	-1	μA
DC current gain	h_{FE}	$V_{CE} = -2V, I_C = -0.5A^*$	120	-	240	
	h_{FE}	$V_{CE} = -2V, I_C = -2A^*$	40	-	-	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -1A, I_B = -0.05A^*$	-	-	-0.35	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -2A, I_B = -0.1A^*$	-	-0.97	-1.2	V
Transition frequency	f_T	$V_{CE} = -10V, I_C = -0.05A$	-	250	-	MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10V, I_E = 0, f = 1MHz$	-	28	-	pF
Switching Time	Turn-on Time	t_{on}	-	100	-	ns
	Storage Time	t_{stg}	-	300	-	
	Fall Time	t_f	-	50	-	



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

Fig. 1 $P_C - T_a$

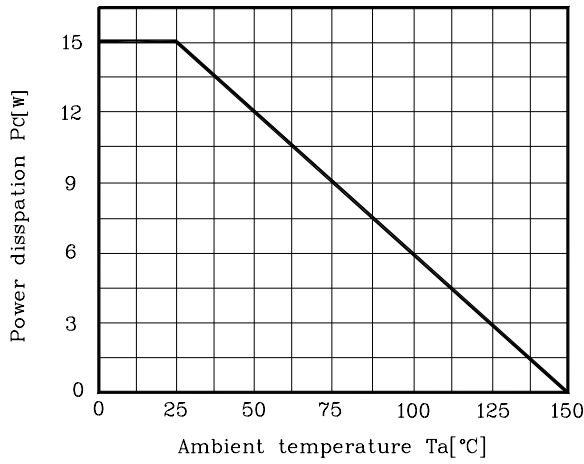


Fig. 2 $I_C - V_{BE}$

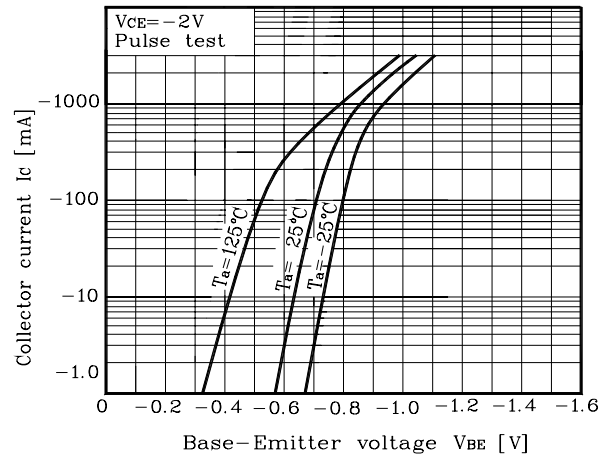


Fig. 3 $I_C - V_{CE}$

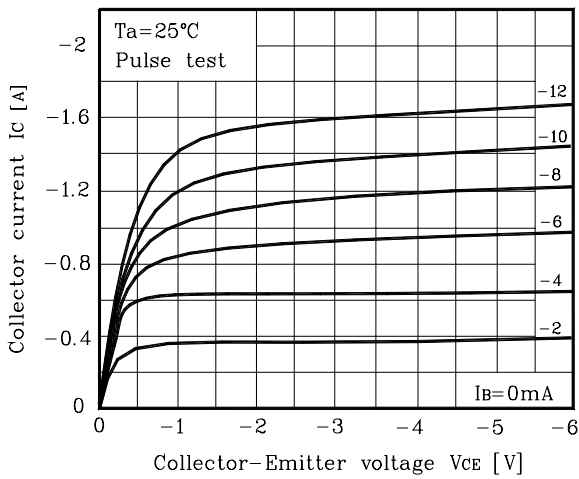


Fig. 4 $h_{FE} - I_C$

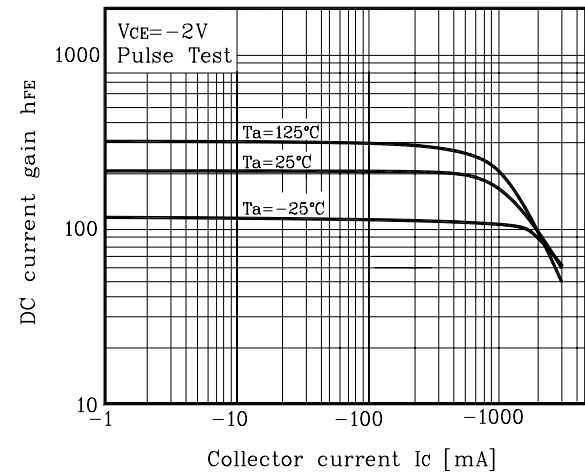


Fig. 5 $V_{CE(sat)} - I_C$

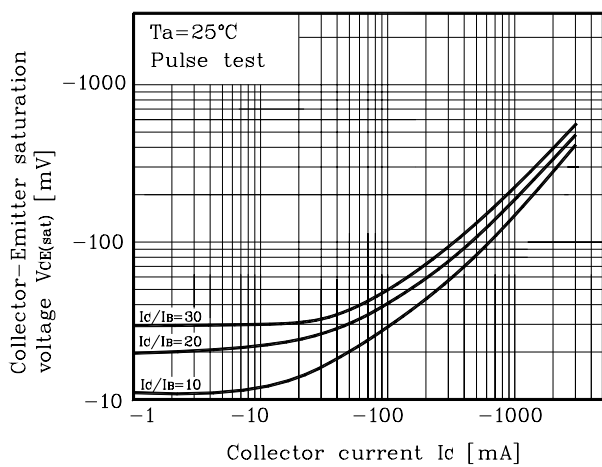
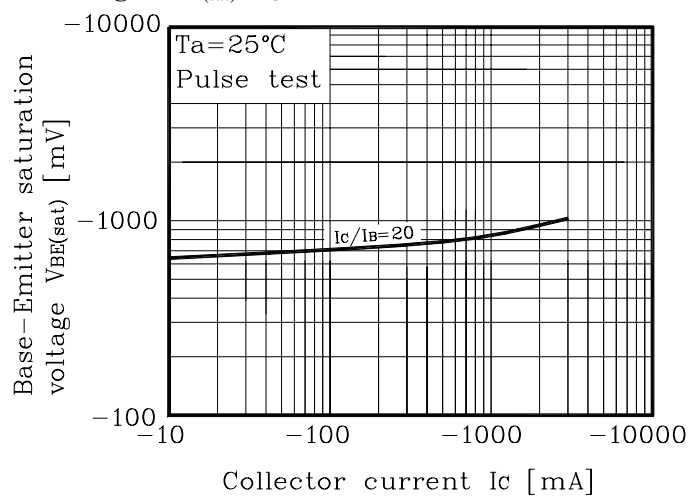


Fig. 6 $V_{BE(sat)} - I_C$



Electrical Characteristic Curves

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

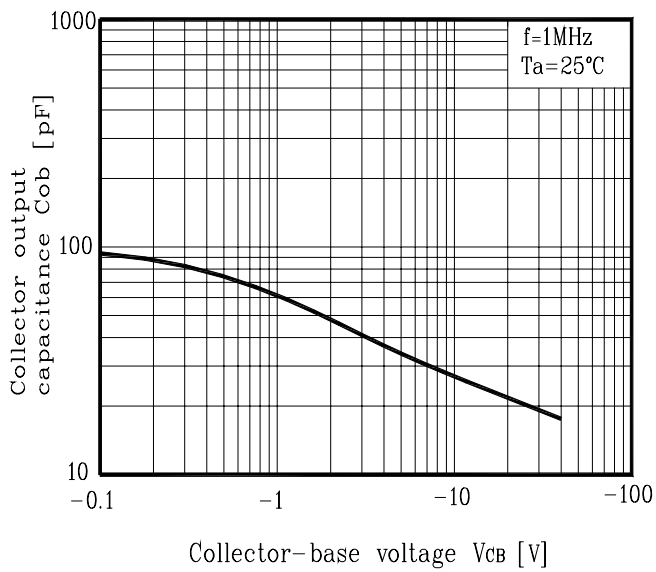
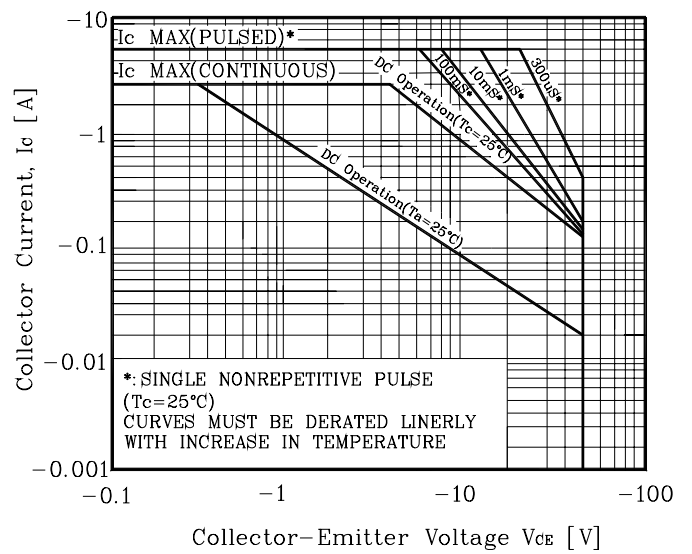
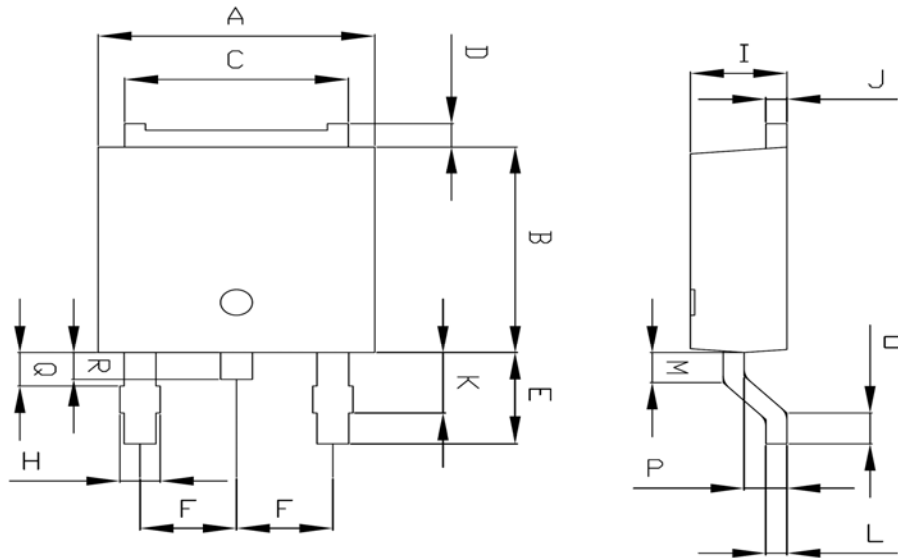


Fig. 8 Safe Operating Area

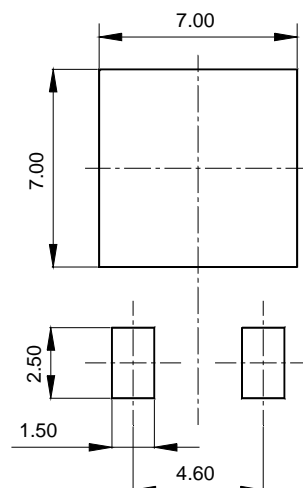


Outline Dimension



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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