

Features

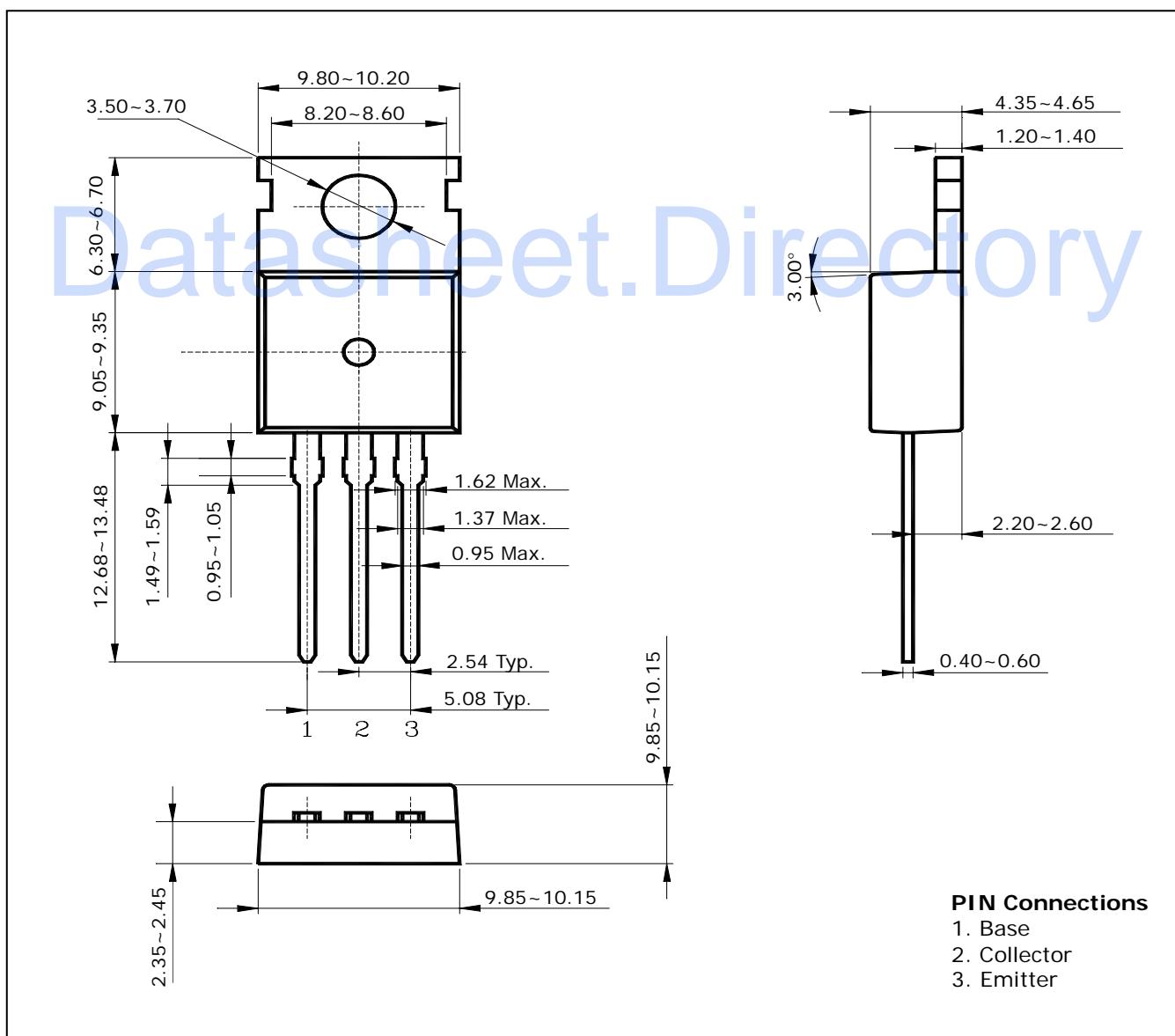
- High speed switching
- High Collector Voltage : $V_{CBO} = 700V$
- Suitable for Switching Regulator and Motor Control

Ordering Information

Type NO.	Marking	Package Code
STD13007	STD13007	TO-220AB

Outline Dimensions

unit : mm



Absolute maximum ratings

(Ta=25°C)

Characteristic	Symbol	Rating	Unit
Collector-Base voltage	V _{CBO}	700	V
Collector-Emitter voltage	V _{CEO}	400	V
Emitter-base voltage	V _{EBO}	9	V
Collector current (DC)	I _C	8	A
Collector current (Pulse)	I _{CM}	16	A
Base current (DC)	I _B	4	A
Collector Power dissipation (Tc=25°C)	P _C	80	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~150	°C

Electrical Characteristics

(Ta=25°C)

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector-Emitter sustaining voltage	BV _{CEO(sus)}	I _C =10mA, I _B =0	400	-	-	V
Emitter cut-off current	I _{EBO}	V _{EB} =9V, I _C =0	-	-	1	mA
DC Current gain	h _{FE} *	I _C =2A, V _{CE} =5V	8	-	60	
		I _C =5A, V _{CE} =5V	5	-	30	
Collector-Emitter saturation voltage	V _{CE(sat)*}	I _C =2A, I _B =0.4A	-	-	1	
		I _C =5A, I _B =1A	-	-	2	
		I _C =8A, I _B =2A	-	-	3	
Base-Emitter saturation voltage	V _{BE(sat)*}	I _C =2A, I _B =0.4A	-	-	1.2	
		I _C =5A, I _B =1A	-	-	1.6	
Transition frequency	f _T	V _{CE} =10V, I _C =0.5A, f=1MHz	-	14	-	MHz
Output capacitance	C _{ob}	V _{CB} =10V, I _E =0, f=0.1MHz	-	80	-	pF
Turn on Time	t _{on}	V _{CC} =125V, I _C =5A I _{B1} =-I _{B2} =1A	-	-	1.6	μs
Storage Time	t _{stg}		-	-	3	
Fall Time	t _f		-	-	0.7	

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

Electrical Characteristic Curves

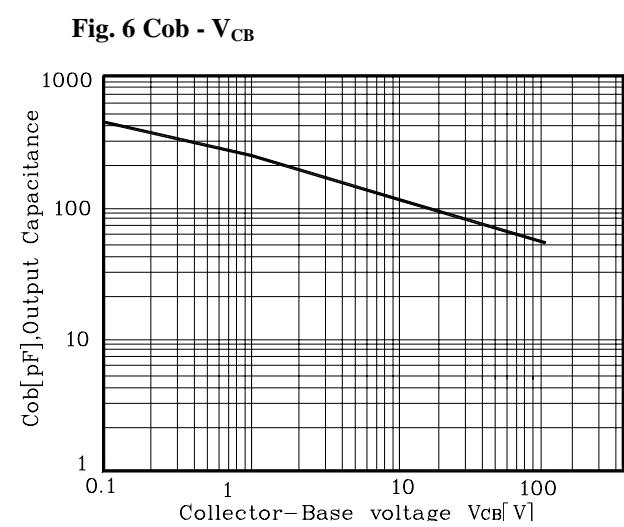
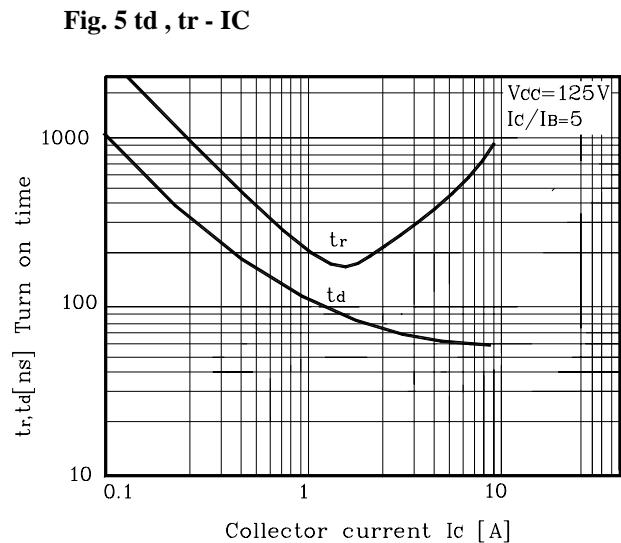
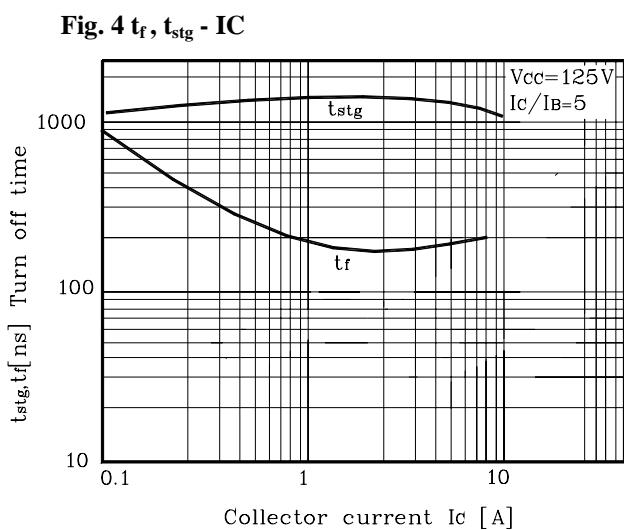
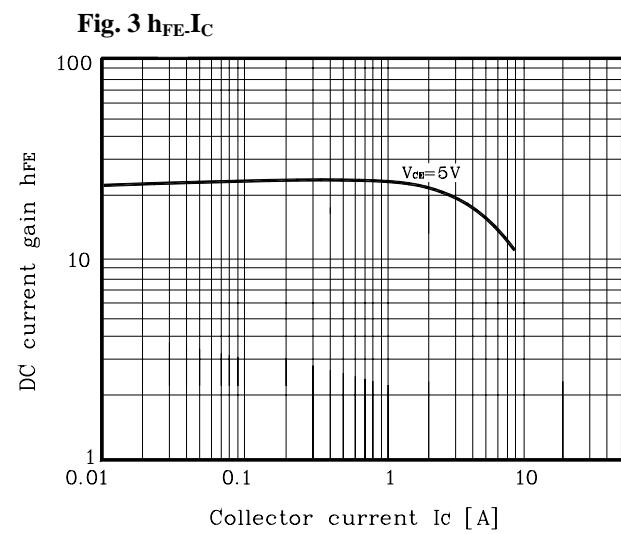
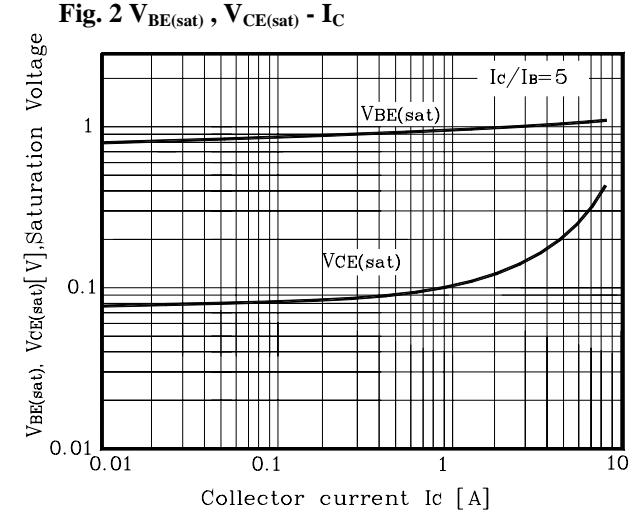
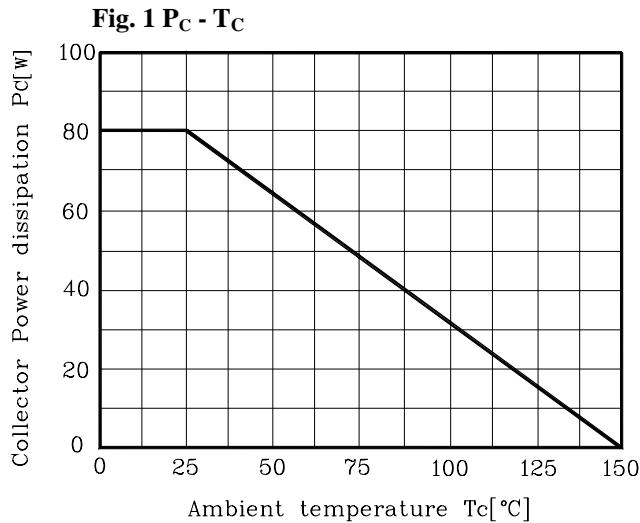
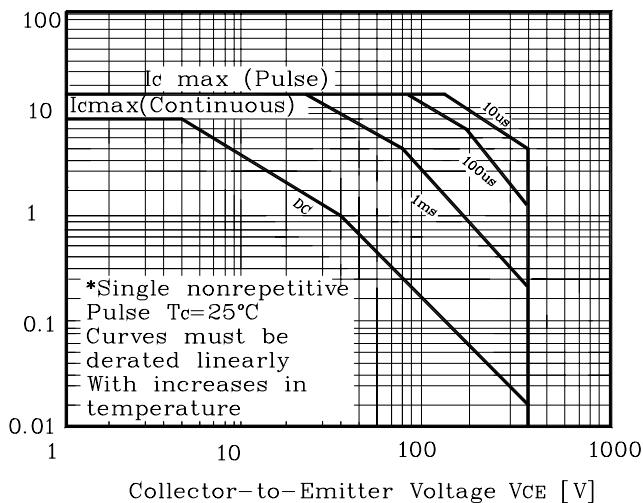


Fig. 7 Safe Operating AreaCollector Current I_C [A]

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