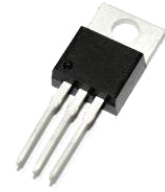


13007

NPN Silicon Transistor

High Voltage Switch Mode Application

DRAWING



1.Base 2.Collector 3.Emitter

Features

- High Speed Switching
- Suitable for Electronic Ballast and Switching Regulator
- Case:TO-220AB

Absolute Maximum Ratings (Ta=25°C unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CB0}	Collector-Base Voltage	700	V
V _{CEO}	Collector-Emitter Voltage	430	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current(DC)	8	A
I _{CP}	Collector Current(Pulse)	16	A
I _B	Base Current	4	A
P _C	Collector Dissipation(Ta=25°C)	80	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-65~150	°C

Electrical Characteristics (Tc=25°C unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C =1mA, I _B =0	430			V
I _{EBO}	Emitter Cut-off Current	V _{EB} =9V, I _C =0			0.2	mA
H _{fe1}	DC Current Gain	V _{CE} =5V, I _C =10mA	8		40	
H _{fe2}		V _{CE} =5V, I _C =2A	20		40	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =2A, I _B =0.5A			0.8	V
		I _C =5A, I _B =1A			0.8	V
		I _C =8A, I _B =2A			2.9	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =2A, I _B =0.5A			1.0	V
		I _C =5A, I _B =1A			1.0	V
F _t	Current Gain Bandwidth Product	V _{CE} =10V, I _C =0.5A	4			MHz
C _{ob}	Output Capacitance	V _{CB} =10V, F=0.1MHZ		110		PF
T _{on}	Turn On time	V _{CC} =125V, I _C =5A I _{B1} =-I _{B2} =1A R _L =50Ω.			1.6	us
T _{STG}	Storage Time				3	us
T _F	Fall Time				0.7	us

Pulse Test:PW≤300us,Duty Cycles≤2%

Thermal Performance Characteristics

Figure 1. DC Current Gain

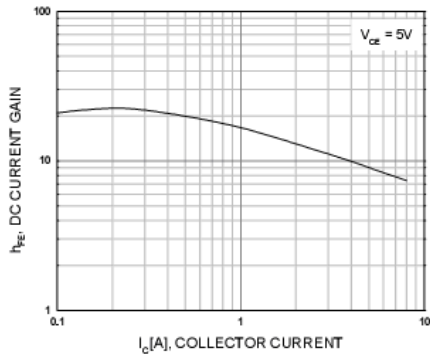


Figure 2. Saturation Voltage

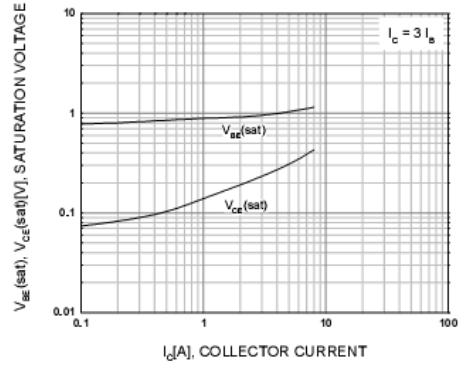


Figure 3. Collector Output Capacitance

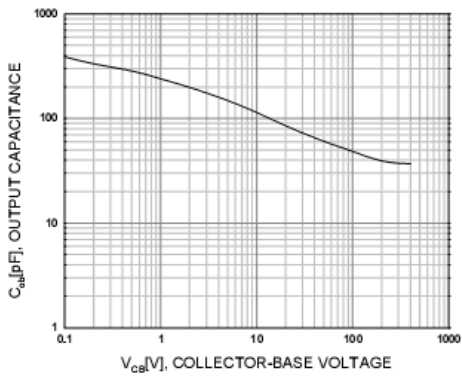


Figure 4. Turn On Time

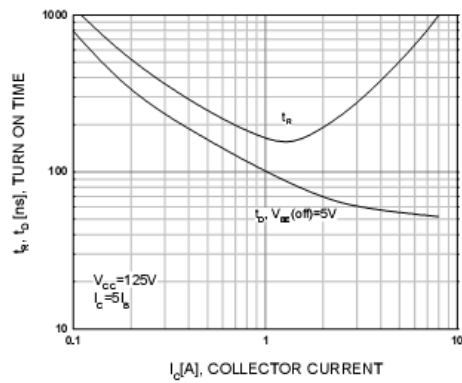


Figure 5. Turn Off Time

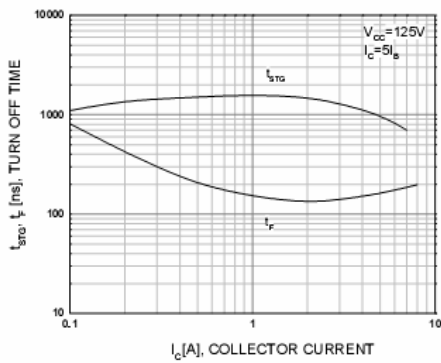


Figure 6. Forward Biased Safe Operating Area

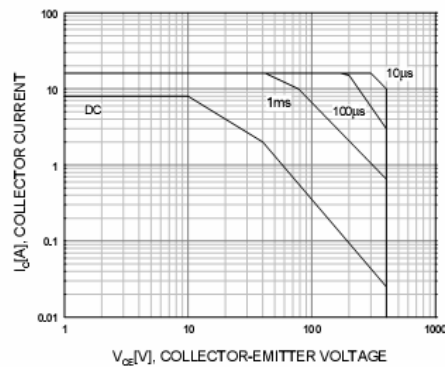


Figure 7. Reverse Biased Safe Operating Area

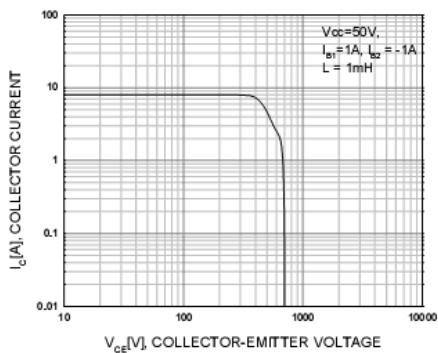
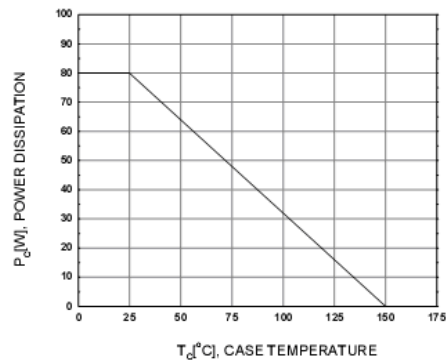
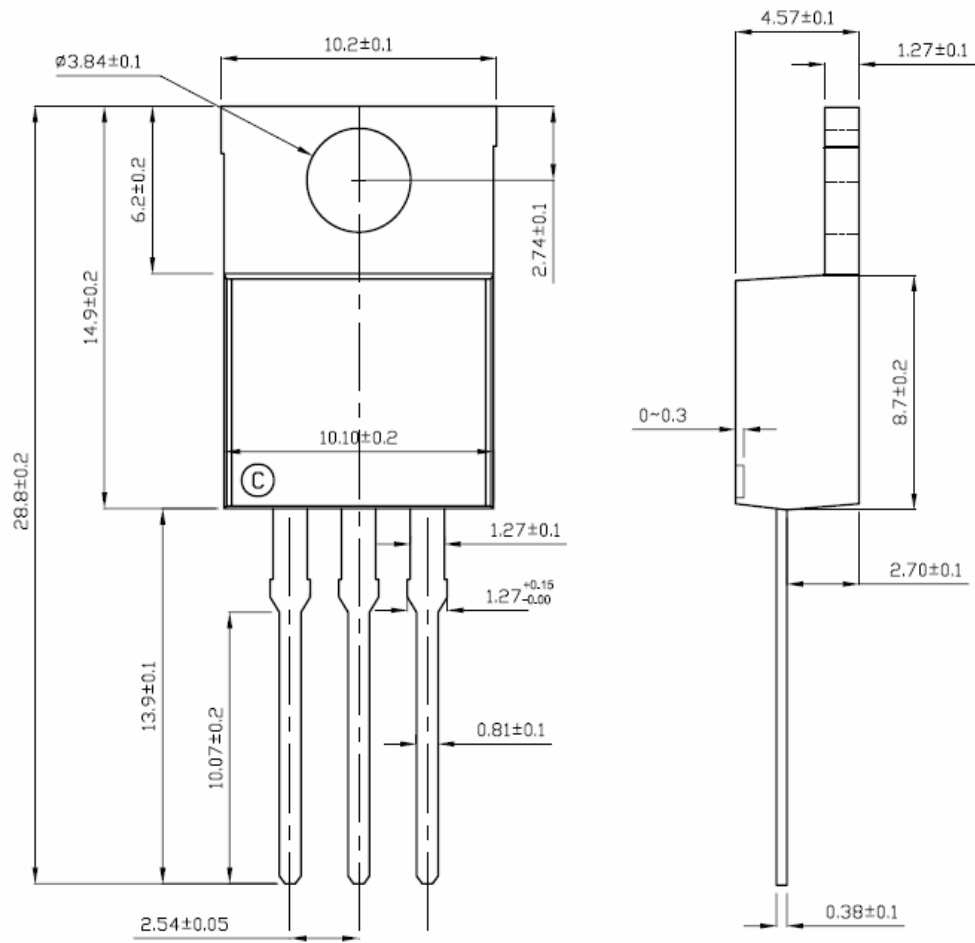


Figure 8. Power Derating



Mechanical Dimensions



13007

