

13005

NPN Silicon Transistor

High Voltage Switch Mode Application

Features

- High Voltage Capability
- High Speed Switching
- Suitable for Switching Regulator and Motor Control
- Case:TO-252

DRAWING



1. Base 2. Collector 3. Emitter

Absolute Maximum Ratings (Ta=25℃ unless otherwise noted)

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	650	V
V _{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current(DC)	4	A
I _{CP}	Collector Current(Pulse)	4	A
I _B	Base Current	4	A
P _C	Collector Dissipation(Ta=25℃)	2	W
T _J	Junction Temperature	150	℃
T _{STG}	Storage Temperature	-65~150	℃

Electrical Characteristics (Tc=25℃ unless otherwise noted)

Symbol	Parameter	Conditions	Min	Typ	Max	Units
BV _{CEO}	Collector-Emitter Breakdown Voltage	I _C =1mA, I _B =0	400			V
I _{EBO}	Emitter Cut-off Current	V _{EB} =9V, I _C =0			0.01	mA
H _{fe1}	DC Current Gain	V _{CE} =5V, I _C =1mA	6		40	
H _{fe2}		V _{CE} =5V, I _C =1A	8		40	
V _{CE(sat)}	Collector-Emitter Saturation Voltage	I _C =2A, I _B =0.5A			0.8	V
		I _C =4A, I _B =1A			0.8	V
V _{BE(sat)}	Base-Emitter Saturation Voltage	I _C =1A, I _B =0.2A			0.95	V
		I _C =2A, I _B =0.5A			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			1.6	us
T _{STG}	Storage Time	I _{B1} =-I _{B2} =1A			3	us
T _F	Fall Time	R _L =50Ω			0.7	us

Pulse Test: PW≤300us, Duty Cycle≤2%

Typical Characteristics

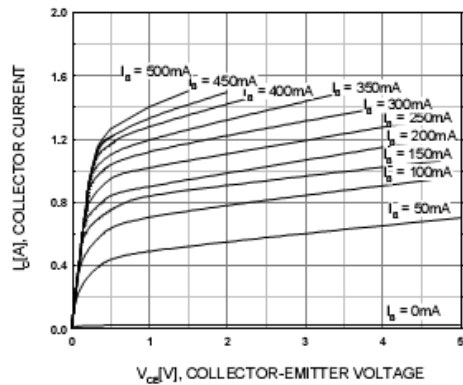


Figure 1. Static Characteristic

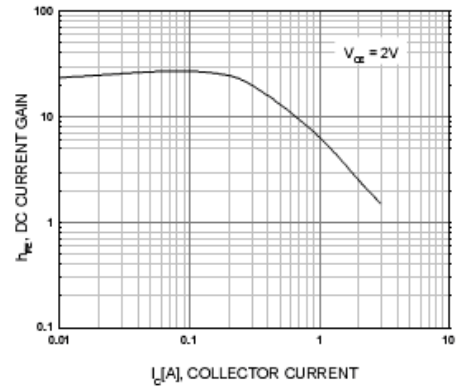


Figure 2. DC current Gain

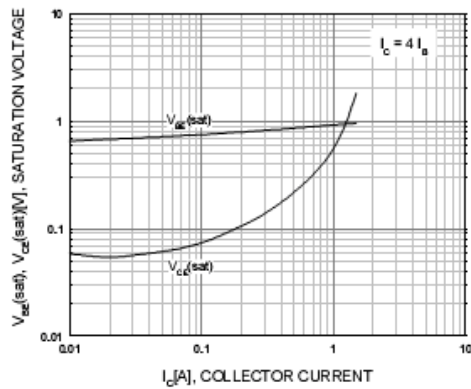


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

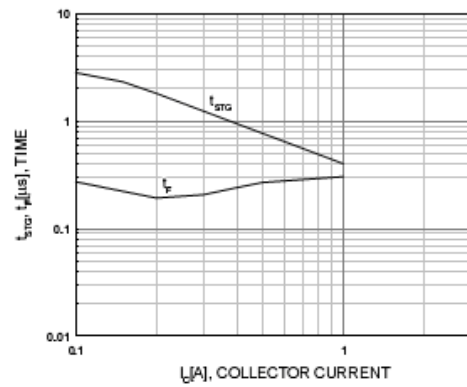


Figure 4. Switching Time

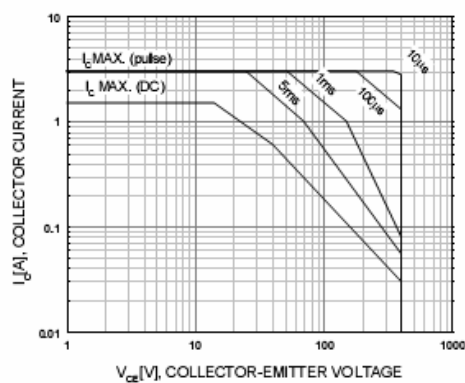


Figure 5. Safe Operating Area

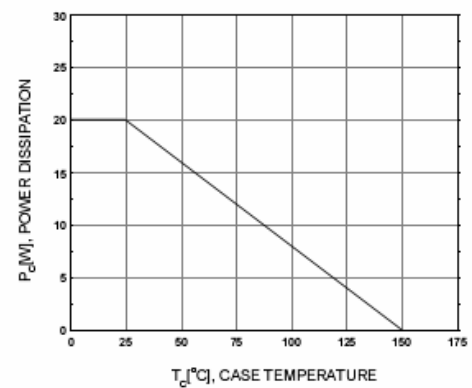


Figure 6. Power Derating

Mechanical Dimensions

