

FJN13003

High Voltage Switch Mode Application

- High Speed Switching
- Suitable for Electronic Ballast up to 21W



NPN Silicon Transistor Planar Silicon Transistor

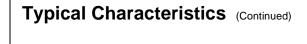
Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	700	V
V_{CEO}	Collector-Emitter Voltage	400	V
V _{EBO}	Emitter-Base Voltage	9	V
I _C	Collector Current (DC)	1.5	A
I _{CP}	*Collector Current (Pulse)	3	А
I _B	Base Current (DC)	0.75	А
I _{BP}	*Base Current (Pulse)	1.5	А
P _C	Collector Power Dissipation(T _a =25°C)	1.1	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 65 ~ 150	°C

^{*} Pulse Test: Pulse Width=5ms, Duty Cycle ≤ 10%

Electrical Characteristics T_a =25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage	I _C =500μA, I _E =0	700			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	$I_C=5$ mA, $I_B=0$	400			V
BV _{EBO}	Emitter-Base Breakdown Voltage	I _E =500μA, I _C =0	9			V
I _{EBO}	Emitter Cut-off Current	V _{EB} =9V, I _C =0			10	μΑ
h _{FE}	DC Current Gain	V _{CE} =2V, I _C =0.5A	9		21	
		V _{CE} =2V, I _C =1.0A	5			
V _{CE} (sat)	Collector-Emitter Saturation Voltage	I _C =0.5A, I _B =0.1A			0.5	V
		I _C =1.0A, I _B =0.25A			1.0	V
		I _C =1.5A, I _B =0.5A			3.0	V
V _{BE} (sat)	Base-Emitter Saturation Voltage	I _C =0.5A, I _B =0.1A			1.0	V
		I _C =1.0A, I _B =0.25A			1.2	V
f _T	Current Gain Bandwidth Product	V _{CE} =10V, I _C =0.1A	4			MHz
t _{ON}	Turn ON Time	V _{CC} =125V, I _C =1A,			1.1	μs
t _{STG}	Storage Time	I _{B1} =0.2A, I _{B2} =-0.2A,			4.0	μs
t _F	Fall Time	$R_L = 125\Omega$			0.7	μs



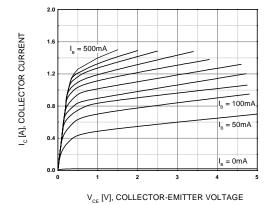


Figure 1. Static Characteristic

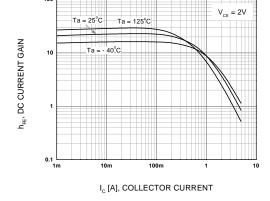


Figure 2. DC current Gain

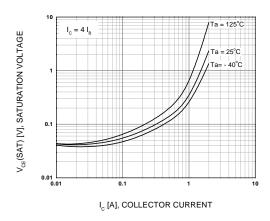


Figure 3. Collector-Emitter Saturation Voltage

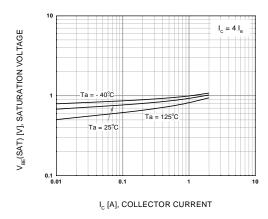


Figure 4. Base-Emitter Saturation Voltage

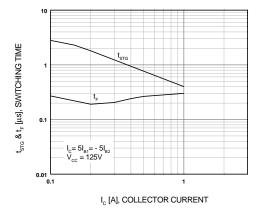


Figure 5. Resistive Load Switching Time

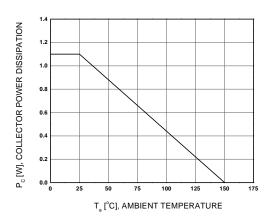
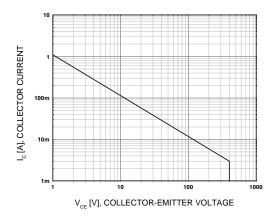


Figure 6. Power Derating

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Typical Characteristics

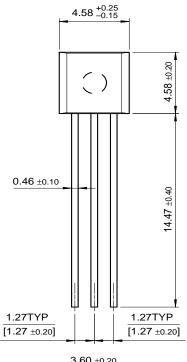


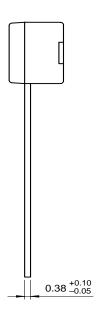
1.4 | R₈₂ = 0, I₈₁ = 1A | V_{CC} = 10V, L = 50mH | N_{CC} = 10V, L = 10V, N_{CC} = 10V, L = 10V, N_{CC} = 10V, N_{CC} = 10V, L = 10V, N_{CC} = 10V, N

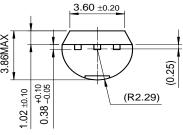
Figure 7. Forward Bias Safe Operating Area

Figure 8. Reverse Bias Safe Operating Area

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