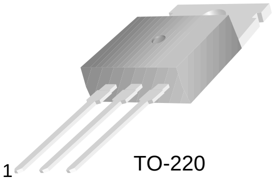
FAIRCHILD
SEMICONDUCTOR®

FJP5021

High Voltage and High Reliability

- High Speed Switching : $t_F = 0.1\mu s$ (Typ.)
- Wide SOA



1.Base 2.Collector 3.Emitter

NPN Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	800	V
V_{CEO}	Collector-Emitter Voltage	500	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current (DC)	5	A
I_{CP}	Collector Current (Pulse)	10	A
I_B	Base Current	2	A
P_C	Collector Dissipation (T_C=25°C)	50	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C = 1mA, I_E = 0	800			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	I_C = 5mA, I_B = 0	500			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E = 1mA, I_C = 0	7			V
V_{CEX}(sus)	Collector-Emitter Sustaining Voltage	I_C = 2.5A, I_{B1} = -I_{B2} = 1A L = 1mH, Clamped	500			V
I_{CBO}	Collector Cut-off Current	V_{CB} = 500V, I_E = 0			10	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = 5V, I_C = 0			10	µA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = 5V, I_C = 0.6A V_{CE} = 5V, I_C = 3A	15 8		50	
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = 3A, I_B = 0.6A			1	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = 3A, I_B = 0.6A			1.5	V
C_{ob}	Output Capacitance	V_{CB} = 10V, I_E = 0, f=1MHz		80		pF
f_T	Current Gain Bandwidth Product	V_{CE} = 10V, I_C = 0.6A		18		MHz
t_{ON}	Turn On Time	V_{CC} = 200V I_C = 5I_{B1} = -2.5I_{B2} = 4A R_L = 50Ω			0.5	µs
t_{STG}	Storage Time				3	µs
t_F	Fall Time			0.1	0.3	µs

h_{FE} Classification

Classification	R	O	Y
h_{FE1}	15 ~ 30	20 ~ 40	30 ~ 50

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Rev. A, May 2003

Typical Characteristics

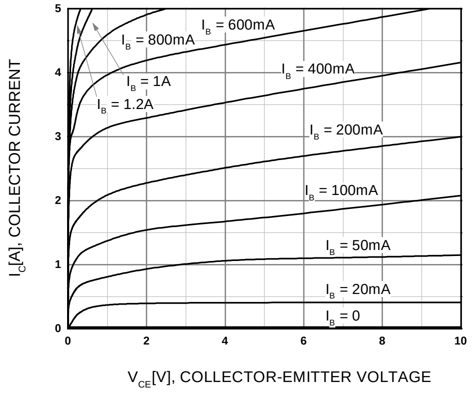


Figure 1. Static Characteristic

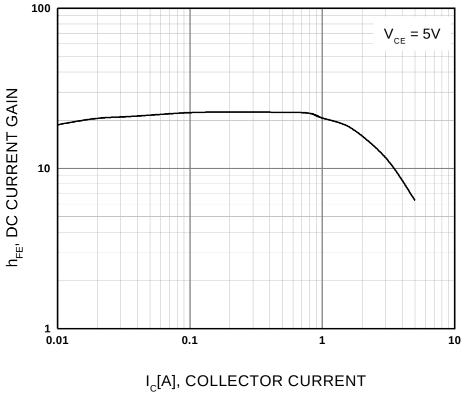


Figure 2. DC current Gain

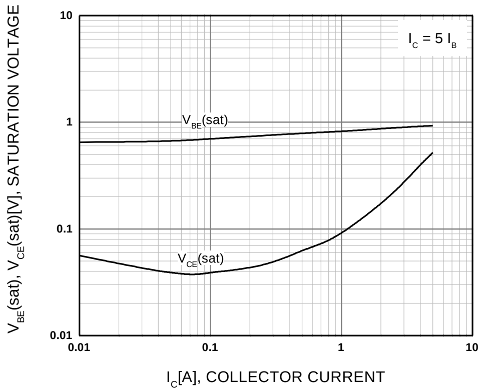


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

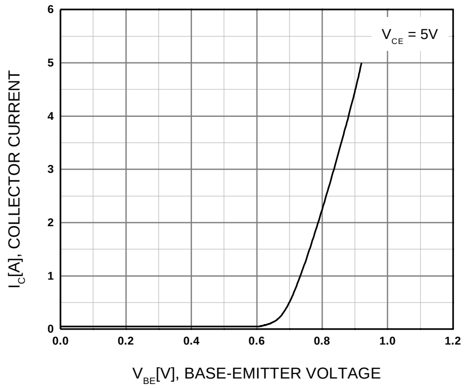


Figure 4. Base-Emitter On Voltage

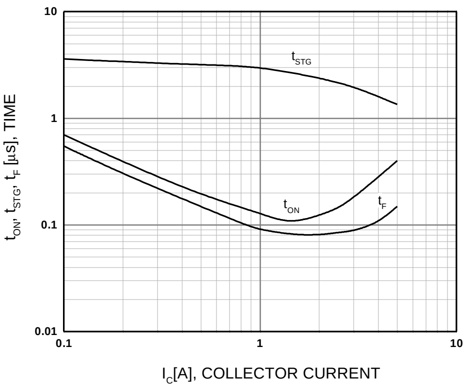


Figure 5. Switching Time

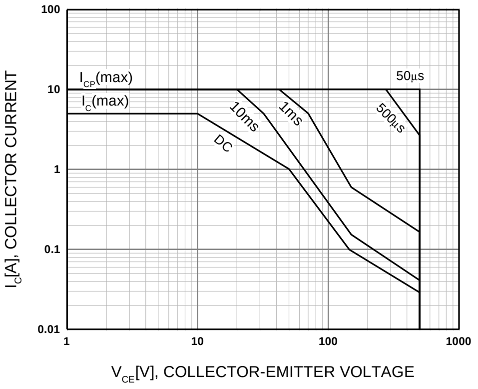


Figure 6. Forward Bias Safe Operating Area

Typical Characteristics (Continued)

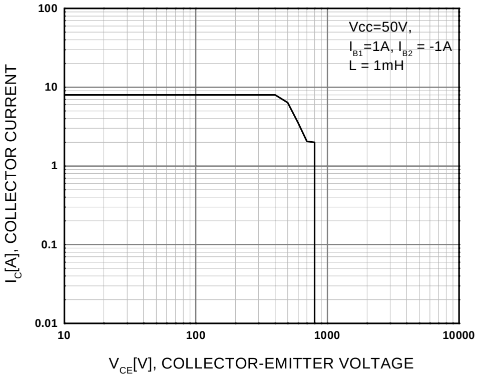


Figure 7. Reverse Bias Safe Operating Area

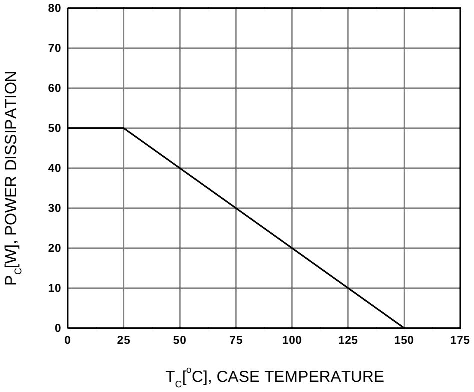
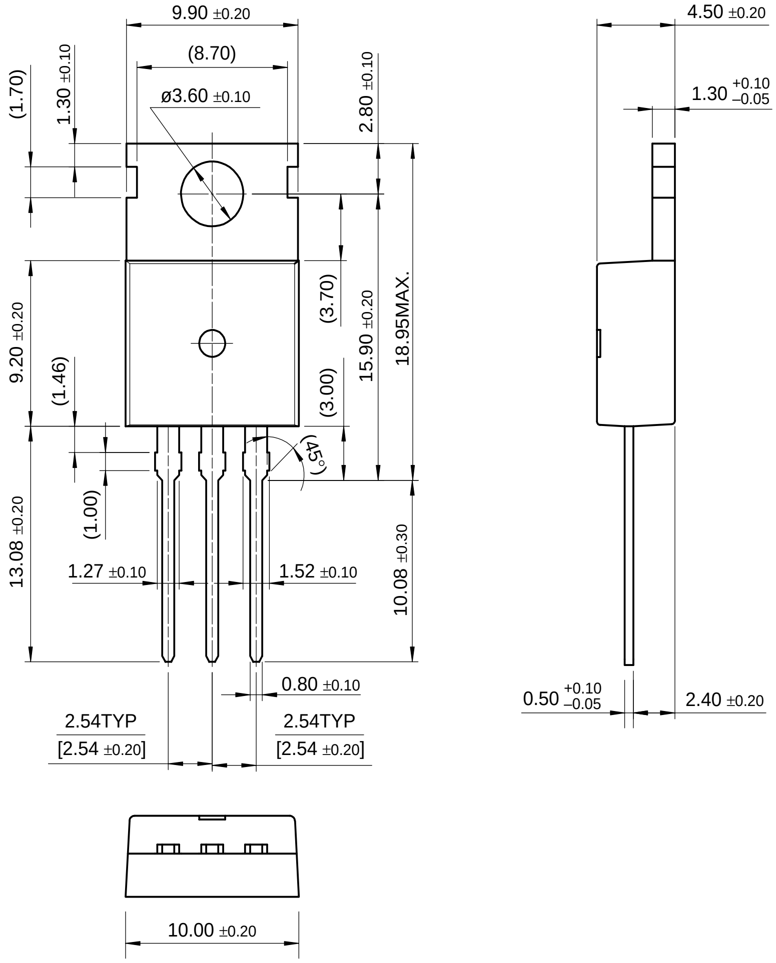


Figure 8. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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- Поставка образцов и прототипов;
- Техническая поддержка проекта;
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