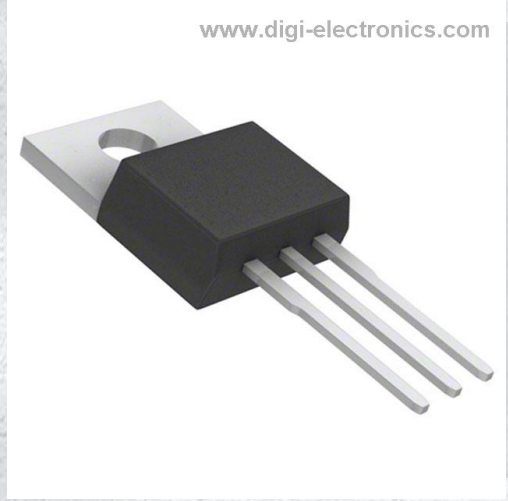
FJP5021 Datasheet



DiGi Electronics Part Number	FJP5021-DG
Manufacturer	onsemi
Manufacturer Product Number	FJP5021
Description	TRANS NPN 500V 5A TO220-3
Detailed Description	Bipolar (BJT) Transistor NPN 500 V 5 A 18MHz 50 W Through Hole TO-220-3

https://www.DiGi-Electronics.com

Tel: +00 852-30501935

RFQ Email: Info@DiGi-Electronics.com

Purchase and inquiry

Manufacturer Product Number:	Manufacturer:
FJP5021	onsemi
Series:	Product Status:
-	Obsolete
Transistor Type:	Current - Collector (Ic) (Max):
NPN	5 A
Voltage - Collector Emitter Breakdown (Max):	Vce Saturation (Max) @ Ib, Ic:
500 V	1V @ 600mA, 3A
Current - Collector Cutoff (Max):	DC Current Gain (hFE) (Min) @ Ic, Vce:
10µA (ICBO)	15 @ 600mA, 5V
Power - Max:	Frequency - Transition:
50 W	18MHz
Operating Temperature:	Mounting Type:
150°C (TJ)	Through Hole
Package / Case:	Supplier Device Package:
TO-220-3	TO-220-3
Base Product Number:	
FJP5021	

Environmental & Export classification

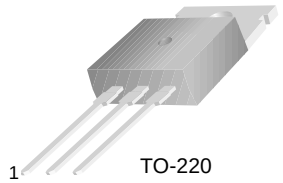
Moisture Sensitivity Level (MSL):	REACH Status:
1 (Unlimited)	REACH Unaffected
ECCN:	HTSUS:
EAR99	8541.29.0095

FAIRCHILD SEMICONDUCTOR®

FJP5021

High Voltage and High Reliability

- High Speed Switching : t_F = 0.1μs (Typ.)
- Wide SOA



TO-220

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

Typical Characteristics

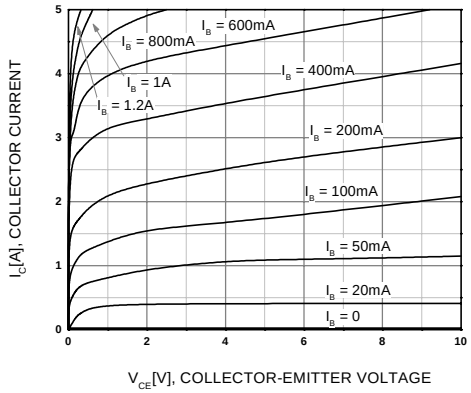


Figure 1. Static Characteristic

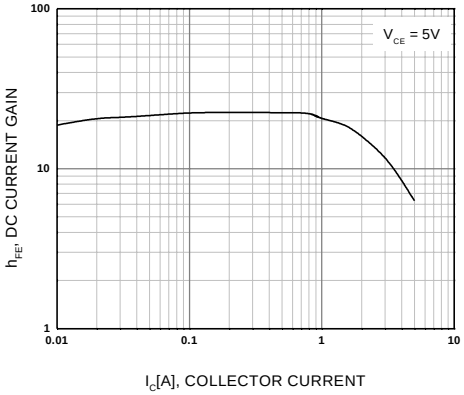


Figure 2. DC current Gain

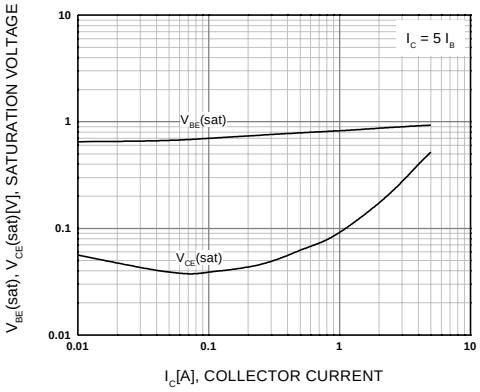


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

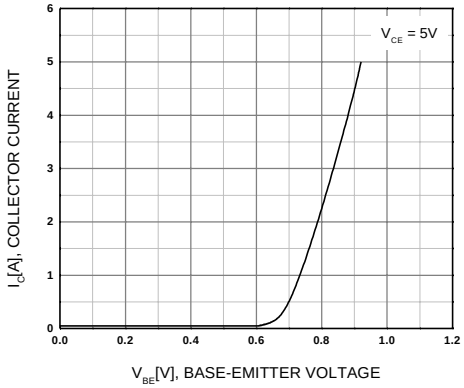


Figure 4. Base-Emitter On Voltage

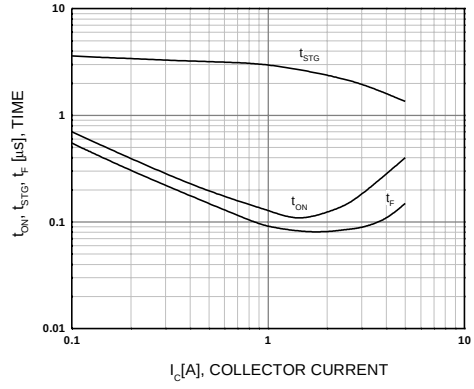


Figure 5. Switching Time

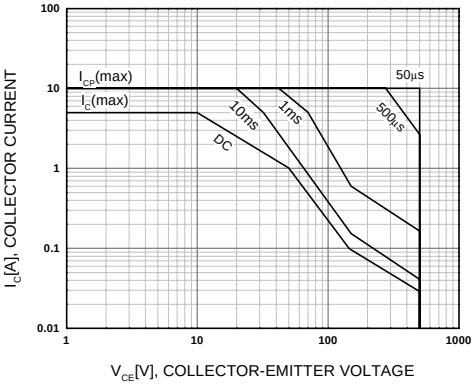


Figure 6. Forward Bias Safe Operating Area

Typical Characteristics (Continued)

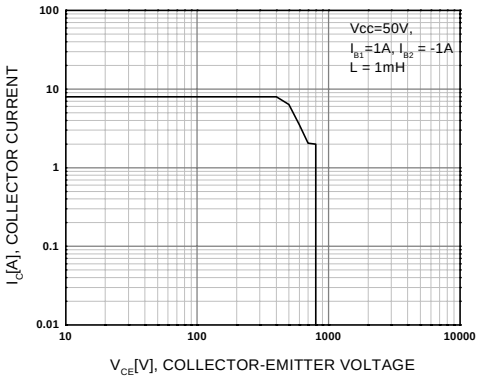


Figure 7. Reverse Bias Safe Operating Area

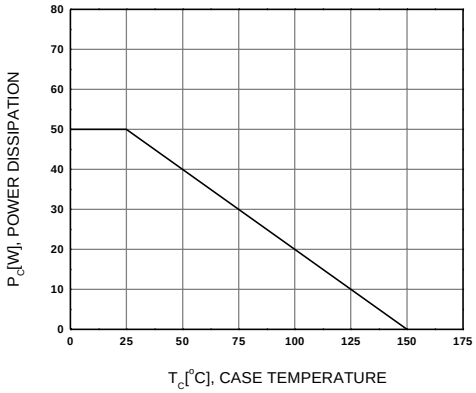
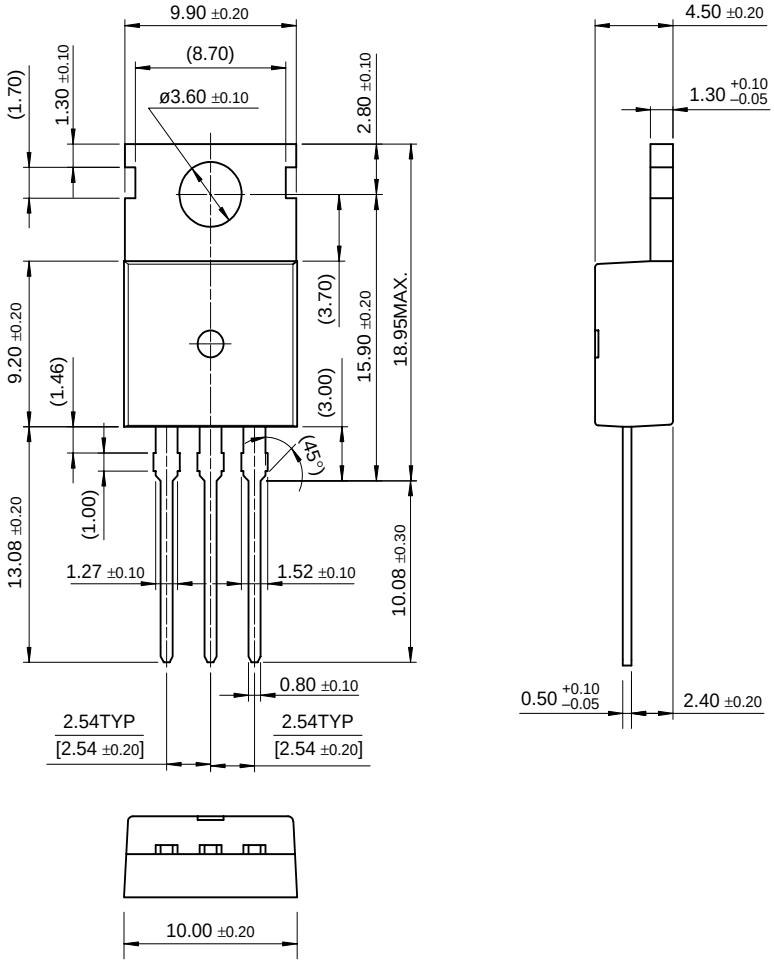


Figure 8. Power Derating

Package Dimensions

TO-220



Dimensions in Millimeters

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Bottomless™	FAST®	LittleFET™	Power247™	SuperSOT™-3
CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic®
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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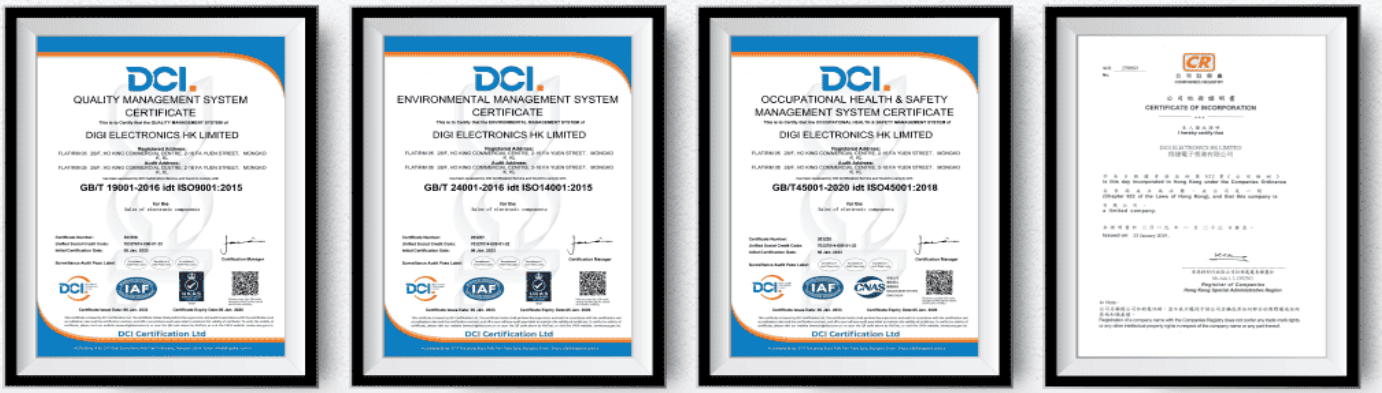

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