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FJP5027

High Voltage and High Reliability

- High Speed Switching
- Wide SOA



1.Base 2.Collector 3.Emitter

NPN Silicon Transistor

Absolute Maximum Ratings $T_C=25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Value	Units
V _{CBO}	Collector-Base Voltage	1100	V
V _{CEO}	Collector-Emitter Voltage	800	V
V _{EBO}	Emitter-Base Voltage	7	V
I _C	Collector Current (DC)	3	Α
I _{CP}	Collector Current (Pulse)	10	Α
I _B	Base Current	1.5	Α
P _C	Collector Dissipation (T _C =25°C)	50	W
TJ	Junction Temperature	150	°C
T _{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics $\rm T_{C}\text{=}25^{\circ}C$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Тур.	Max.	Units
BV _{CBO}	Collector-Base Breakdown Voltage	$I_C = 1 \text{mA}, I_E = 0$	1100			V
BV _{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 5mA, I_B = 0$	800			V
BV _{EBO}	Emitter-Base Breakdown Voltage	$I_E = 1 \text{mA}, I_C = 0$	7			V
V _{CEX} (sus)	Collector-Emitter Sustaining Voltage	$I_C = 1.5A$, $I_{B1} = -I_{B2} = 0.3A$ L = 2mH, Clamped	800			V
I _{CBO}	Collector Cut-off Current	$V_{CB} = 800V, I_{E} = 0$			10	μΑ
I _{EBO}	Emitter Cut-off Current	$V_{EB} = 5V, I_{C} = 0$			10	μΑ
h _{FE1}	DC Current Gain	$V_{CE} = 5V, I_{C} = 0.2A$	10		40	
h _{FE2}		$V_{CE} = 5V, I_{C} = 1A$	8			
V _{CE} (sat)	Collector-Emitter Saturation Voltage	$I_C = 1.5A, I_B = 0.3A$			2	V
V _{BE} (sat)	Base-Emitter Saturation Voltage	$I_C = 1.5A, I_B = 0.3A$			1.5	V
C _{ob}	Output Capacitance	$V_{CB} = 10V, I_{E} = 0, f = 1MHz$		60		pF
f _T	Current Gain Bandwidth Product	$V_{CE} = 10V, I_{C} = 0.2A$		15		MHz
t _{ON}	Turn On Time	V _{CC} = 400V			0.5	μs
t _{STG}	Storage Time	$I_C = 5I_{B1} = -2.5I_{B2} = 2A$			3	μs
t _F	Fall Time	$R_L = 200\Omega$			0.3	μs

\mathbf{h}_{FE} Classification

Classification	N	R	0
h _{FE1}	10 ~ 20	15 ~ 30	20 ~ 40

Typical Characteristics

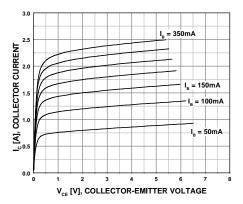


Figure 1. Static Characteristic

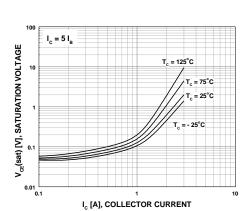


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

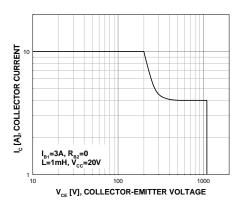


Figure 5. Switching Time

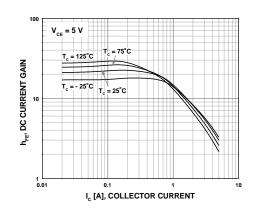


Figure 2. DC current Gain

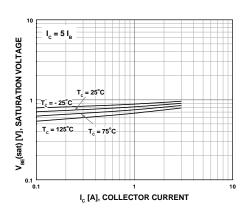


Figure 4. Base-Emitter On Voltage

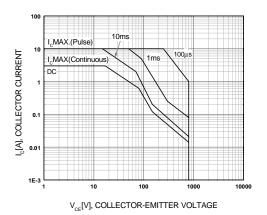
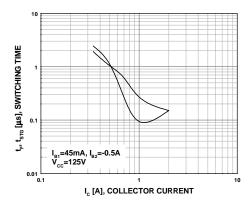


Figure 6. Safe Operating Area

Typical Characteristics (Continued)



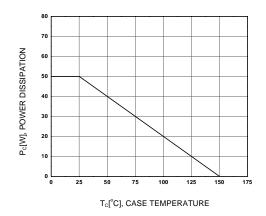
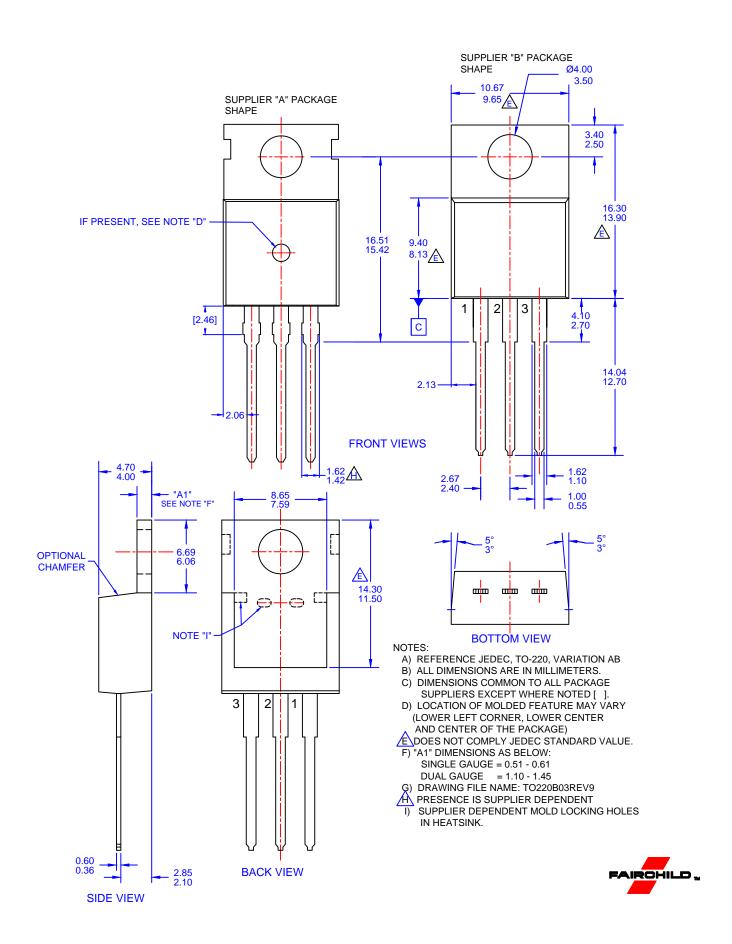


Figure 7. Resistive Load Switching Characteristics

Figure 8. Power Derating



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Офис по работе с юридическими лицами:

105318, г. Москва, ул. Щербаковская д. 3, офис 1107, 1118, ДЦ «Щербаковский»

Телефон: +7 495 668-12-70 (многоканальный)

Факс: +7 495 668-12-70 (доб.304)

E-mail: info@moschip.ru

Skype отдела продаж:

moschip.ru moschip.ru_6 moschip.ru 4 moschip.ru 9