

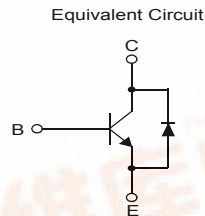
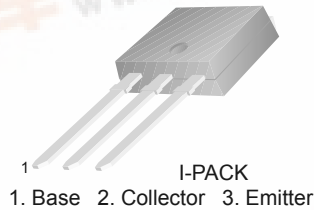


FJU5304D

High Voltage Fast Switching Transistor

Features

- Built-in Free Wheeling Diode
- Wide Safe Operating Area
- Small Variance in Storage Time
- Suitable for Electronic Ballast Application



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	12	V
I _C	Collector Current (DC)	4	A
I _{CP}	* Collector Current (Pulse)	8	A
I _B	Base Current (DC)	2	A
I _{BP}	* Base Current (Pulse)	4	A
P _C	Collector Dissipation (T _C = 25°C)	30	W
T _J	Junction Temperature	150	°C
T _{STG}	Storage Temperature	-55 ~ 150	°C

* Pulse Test: PW = 300µs, Duty Cycle = 2% Pulsed

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
J5304D	FJU5304DTU	I-PAK	-	-	75



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

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = 1\text{mA}, I_E = 0$	700			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 5\text{mA}, I_B = 0$	400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 1\text{mA}, I_C = 0$	12			V
I_{CES}	Collector Cut-off Current	$V_{CB} = 700\text{V}, I_E = 0$			100	μA
I_{CEO}	Collector Cut-off Current	$V_{CB} = 400\text{V}, I_B = 0$			250	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 12\text{V}, I_C = 0$			1	mA
h_{FE}	DC Current Gain	$V_{CE} = 5\text{V}, I_C = 10\text{mA}$ $V_{CE} = 5\text{V}, I_C = 2.0\text{A}$	10 8		40	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 0.5\text{A}, I_B = 0.1\text{A}$			0.7	V
		$I_C = 1.0\text{A}, I_B = 0.2\text{A}$			1.0	V
		$I_C = 2.5\text{A}, I_B = 0.5\text{A}$			1.5	V
$V_{BE(sat)}$	Base-Emitter Saturation Voltage	$I_C = 0.5\text{A}, I_B = 0.1\text{A}$			1.1	V
		$I_C = 1.0\text{A}, I_B = 0.2\text{A}$			1.2	V
		$I_C = 2.5\text{A}, I_B = 0.5\text{A}$			1.3	V
t_{STG}	Storage Time	$V_{CLAMP}=200\text{V}, I_C=2.0\text{A}$		0.6		μs
t_F	Fall Time	$I_{B1}=0.4\text{A}, V_{BE(off)}=-5\text{V}, L=200\mu\text{H}$		0.1		μs
t_{STG}	Storage Time	$V_{CC}=250\text{V}, I_C=2.0\text{A}$			2.9	μs
t_F	Fall Time	$I_{B1}=0.4\text{A}, I_{B2}=-0.4\text{A}, T_P=30\mu\text{s}$		0.2		μs

Typical Performance Characteristics

Figure 1. Static Characteristic

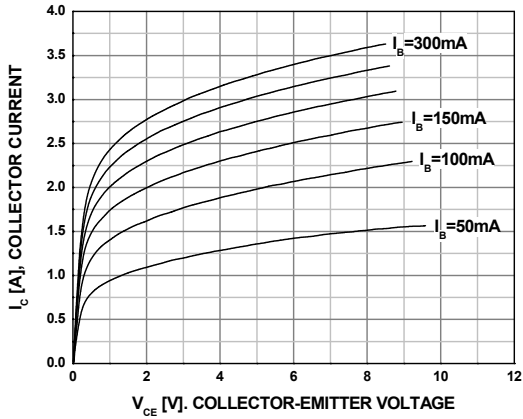


Figure 2. DC Current Gain

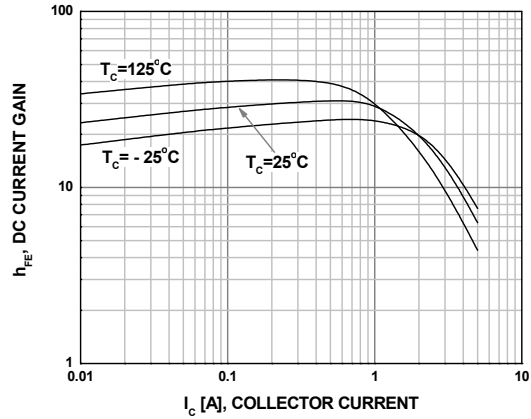


Figure 3. Collector-Emitter Saturation Voltage

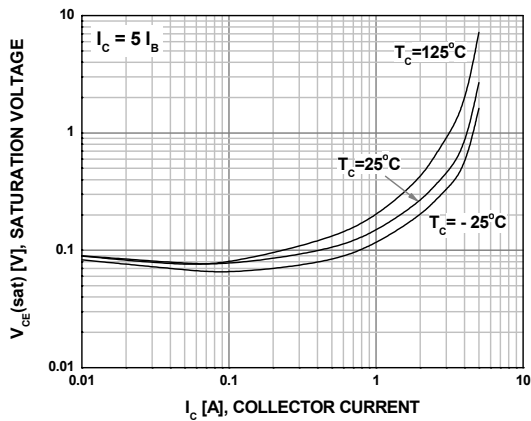


Figure 4. Base-Emitter Saturation Voltage

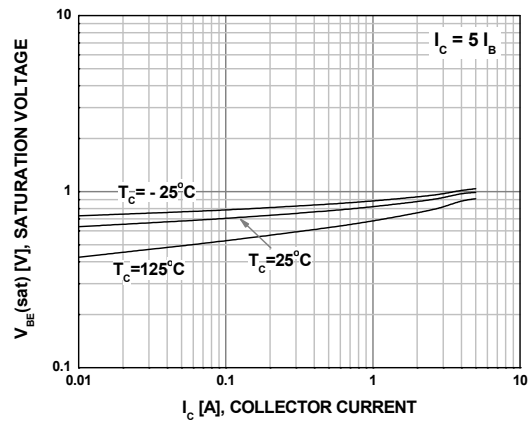


Figure 5. Resistive Load Switching Time

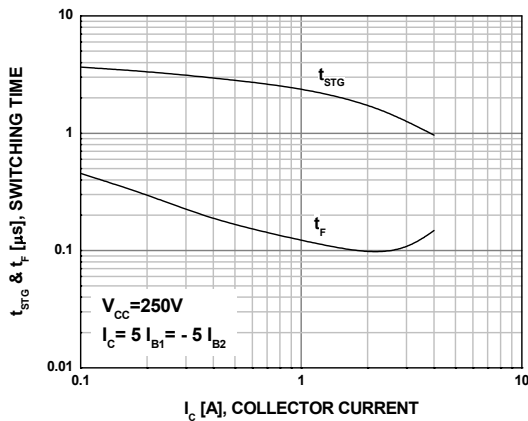
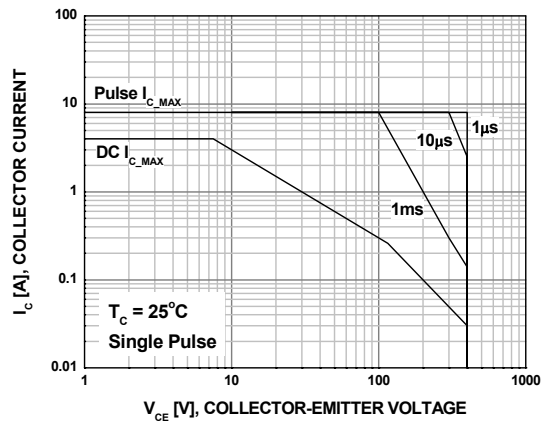


Figure 6. Forward Biased Safe Operating Area



Typical Performance Characteristics (Continued)

Figure 7. Reverse Biased Safe Operating Area

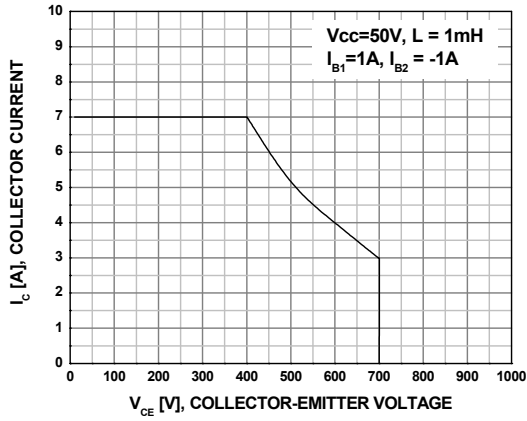
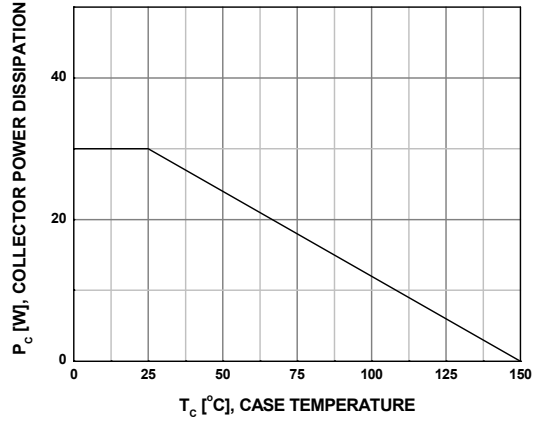
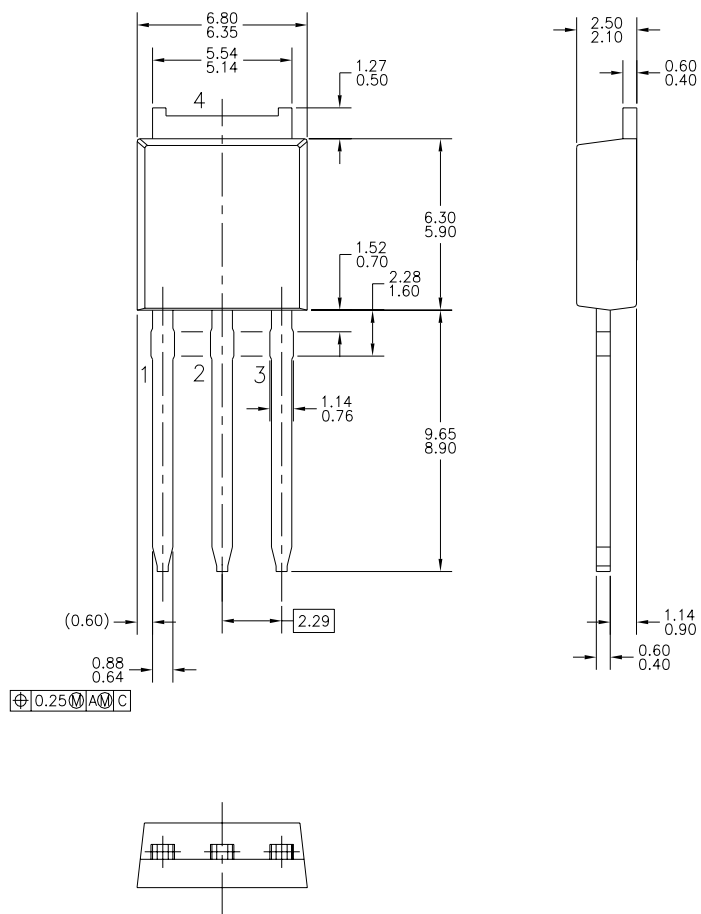


Figure 8. Power Derating Curve



Mechanical Dimensions

I-PAK



Dimensions in Millimeters

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