

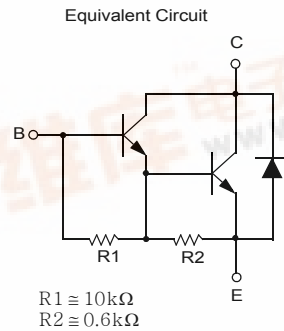
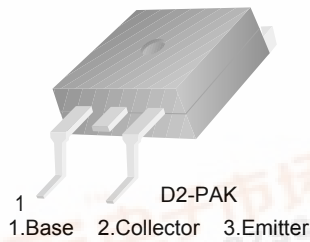


FJB102

High Voltage Power Darlington Transistor

Features

- High DC Current Gain : $h_{FE}=1000$ @ $V_{CE}=4V$, $I_C=3A$ (Min.)
- Low Collector-Emitter Saturation Voltage
- High Collector-Emitter Sustaining Voltage
- Monolithic Construction with Built-in Base-Emitter Shunt Resistors
- Industrial Use



Absolute Maximum Ratings

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	100	V
V_{CEO}	Collector-Emitter Voltage	100	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current (DC)	8	A
I_{CP}	* Collector Current (Pulse)	15	A
I_B	Base Current (DC)	1	A
P_C	Collector Dissipation ($T_C = 25^\circ C$)	80	W
T_J	Junction Temperature	150	$^\circ C$
T_{STG}	Storage Temperature	-65 ~ 150	$^\circ C$

* Pulse Test: $PW = 300\mu s$, Duty Cycle = 2% Pulsed

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
FJB102	FJB102	D2-PAK	13" Dia	-	800



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

Symbol	Parameter	Conditions	Min.	Typ.	Max	Units
$BV_{CEO(sus)}$	Collector-Emitter Sustaining Voltage	$I_C = 30\text{mA}, I_B = 0$	100			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 500\mu\text{A}, I_C = 0$	10			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 100\text{V}, I_E = 0$			50	μA
I_{CEO}	Collector Cut-off Current	$V_{CE} = 50\text{V}, I_E = 0$			50	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 5\text{V}, I_C = 0$			2	mA
h_{FE}	DC Current Gain	$V_{CE} = 4\text{V}, I_C = 3\text{A}$ $V_{CE} = 4\text{V}, I_C = 8\text{A}$	1000 200		20000	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 3\text{A}, I_B = 6\text{mA}$			2.0	V
		$I_C = 8\text{A}, I_B = 80\text{mA}$			2.5	V
$V_{BE(ON)}$	Base-Emitter Saturation Voltage	$V_{CE} = 4\text{V}, I_C = 8\text{A}$			2.8	V
C_{ob}	Output Capacitance	$V_E = 10\text{V}, I_E = 0, f = 1\text{MHz}$			200	pF

Typical Performance Characteristics

Figure 1. Static Characteristic

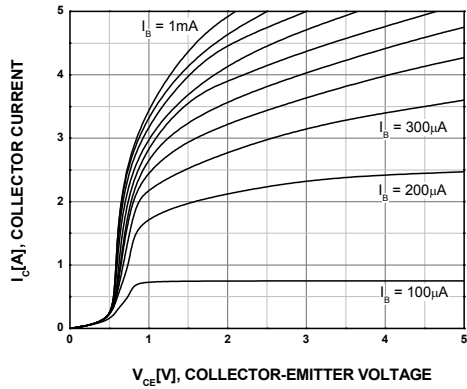


Figure 2. DC Current Gain

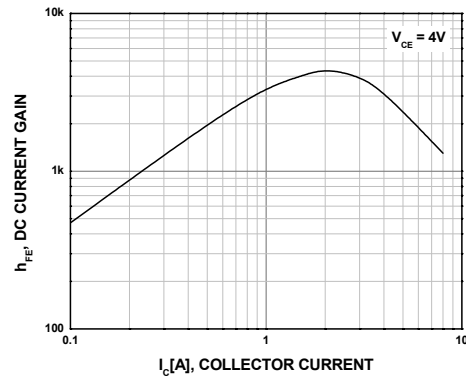


Figure 3. Saturation Voltage

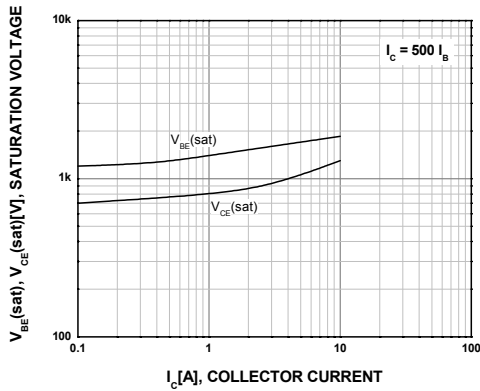


Figure 4. Collector Output Capacitance

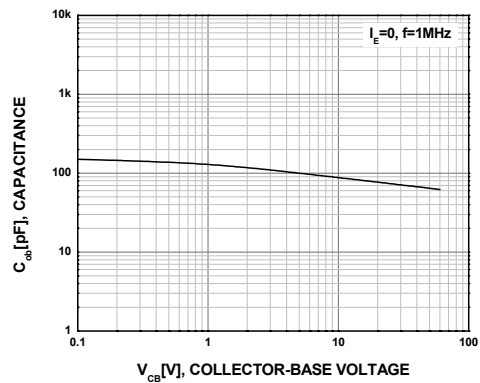


Figure 5. Forward Biased Safe Operating Area

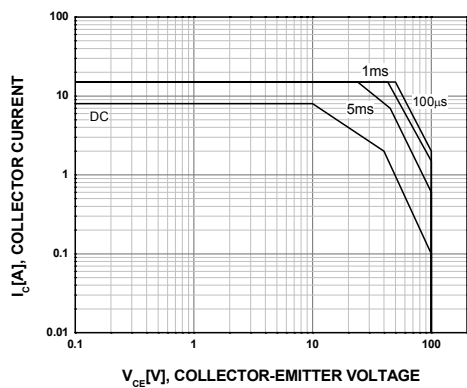
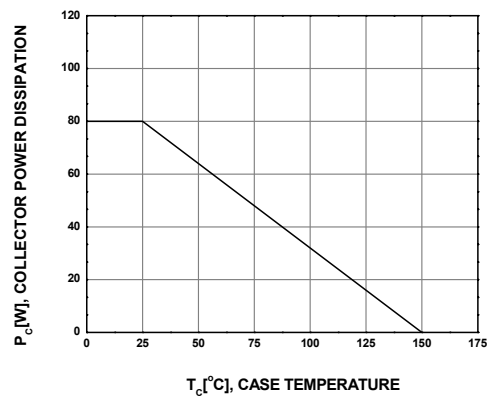
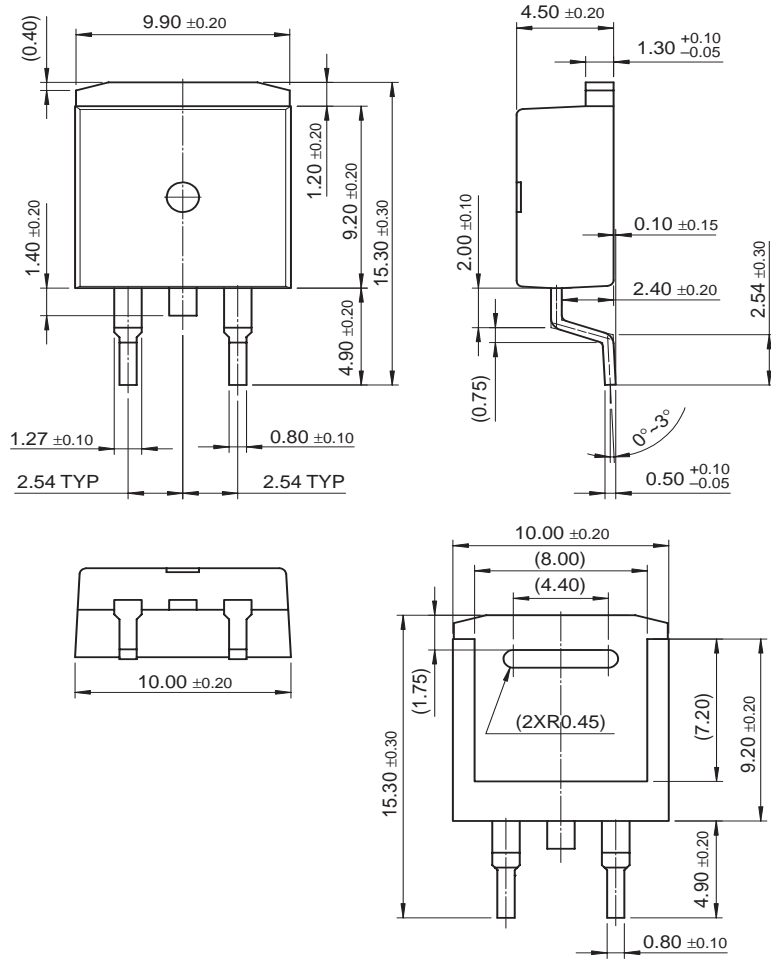


Figure 6. Power Derating



Mechanical Dimensions

D²-PAK



Dimensions in Millimeters

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EnSigna™	ImpliedDisconnect™	OCXPro™	SILENT SWITCHER®	Wire™
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FACT Quiet Series™		OPTOPLANAR™	SPM™	
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Programmable Active Droop™		Power247™	SuperSOT™-3	
		PowerEdge™	SuperSOT™-6	

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