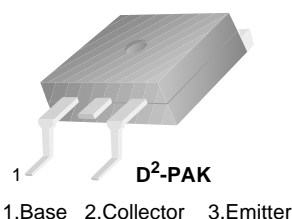


FJB5555

NPN Silicon Transistor

Features

- High Voltage Switch Mode Application
- Fast Speed Switching
- Wide Safe Operating Area
- Suitable for Electronic Ballast Application



Absolute Maximum Ratings* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units
BV_{CBO}	Collector-Base Voltage	1050	V
BV_{CEO}	Collector-Emitter Voltage	400	V
BV_{EBO}	Emitter-Base Voltage	14	V
I_C	Collector Current (DC)	5	A
I_{CP}	Collector Current (Pulse)	10	A
I_B	Base Current (DC)	2	A
I_{BP}	Collector Current (Pulse)	4	A
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Junction Temperature Range	- 55 to 150	$^\circ\text{C}$

* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Units	
P_D	Total Device Dissipation	$T_a = 25^\circ\text{C}$	1.6	W
		$T_c = 25^\circ\text{C}$	100	W
$R_{\theta ja}$	Thermal Resistance, Junction to Ambient	77.75	$^\circ\text{C}/\text{W}$	
$R_{\theta jc}$	Thermal Resistance, Junction to Case	1.25	$^\circ\text{C}/\text{W}$	

* Device mounted on minimum pad size

Ordering Information

Part Number	Marking	Package	Packing Method	Remarks
FJB5555TM	J5555	D2-PAK	Tape & Reel	

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

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=500\mu\text{A}, I_E=0$	1050			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C=5\text{mA}, I_B=0$	400			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=500\mu\text{A}, I_C=0$	14			V
h_{FE}	DC Current Gain	$V_{CE}=5\text{V}, I_C=10\text{mA}$	10			
		$V_{CE}=3\text{V}, I_C=0.8\text{A}$	20		40	
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=1\text{A}, I_B=0.2\text{A}$		0.17	0.5	V
		$I_C=3.5\text{A}, I_B=1.0\text{A}$			1.5	V
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C=3.5\text{A}, I_B=1.0\text{A}$			1.2	V
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}, f=1\text{MHz}$		45		pF
t_{ON}	Turn On Time	$V_{CC}=125\text{V}, I_C=0.5\text{A}$			1.0	μs
t_{STG}	Storage Time	$I_{B1}=45\text{mA}, I_{B2}=-0.5\text{A}$ $R_L=250\Omega$			1.2	μs
t_F	Fall Time			0.3		μs
t_{ON}	Turn On Time				2.0	μs
t_{STG}	Storage Time	$V_{CC}=250\text{V}, I_C=2.5\text{A}$ $I_{B1}=0.5\text{A}, I_{B2}=-1.0\text{A}$ $R_L=100\Omega$			2.5	μs
t_F	Fall Time				0.3	μs
EAS	Avalanche Energy	$L=2\text{mH}$	6			mJ

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

Typical Characteristics

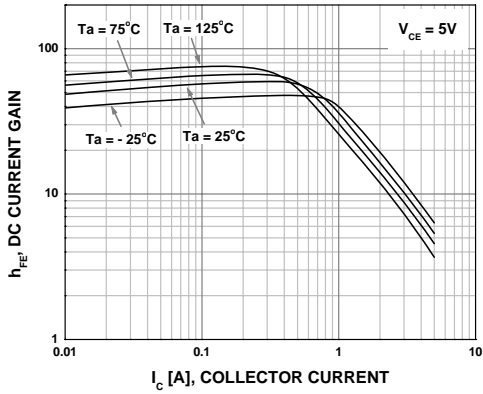


Figure 1. DC Current Gain

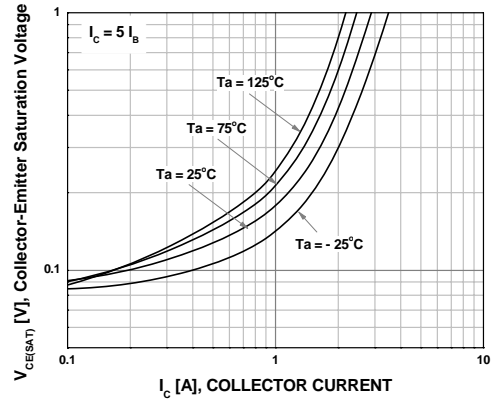


Figure 2. Saturation Voltage

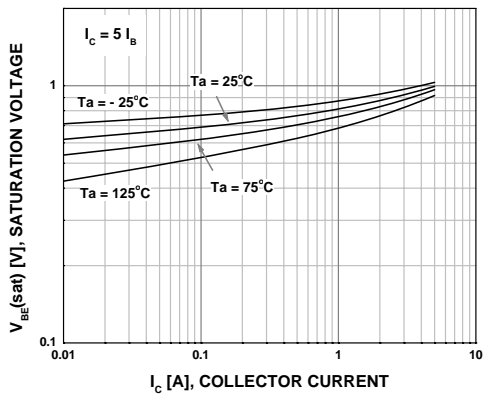


Figure 3. Saturation Voltage

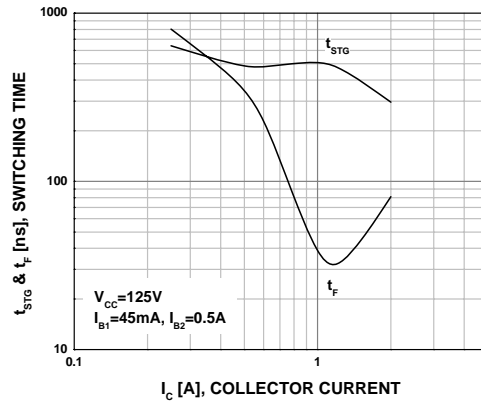


Figure 4. Resistive Load Switching

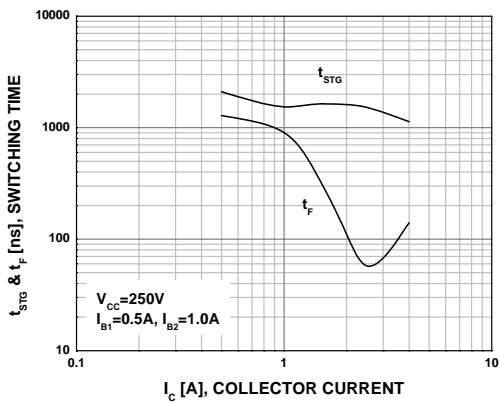


Figure 5. Resistive Load Switching

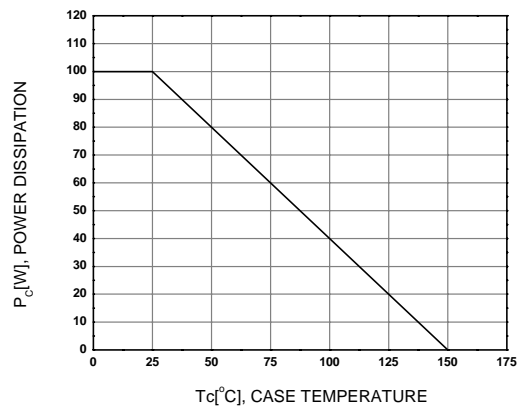


Figure 6. Power Derating

Typical Characteristics (Continued)

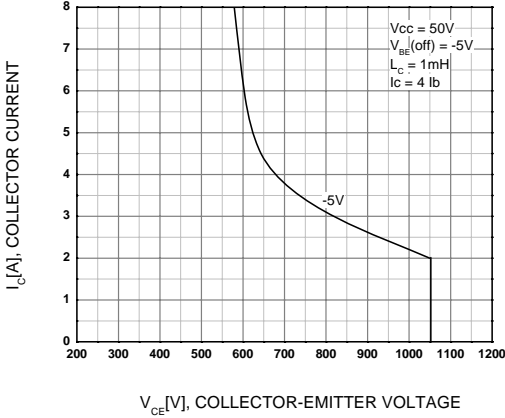
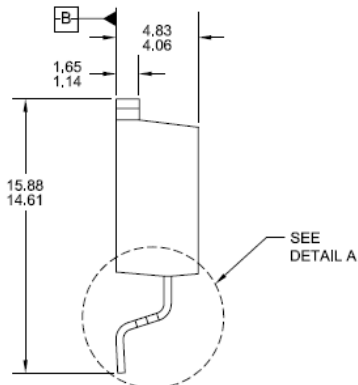
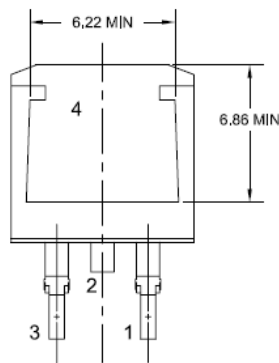
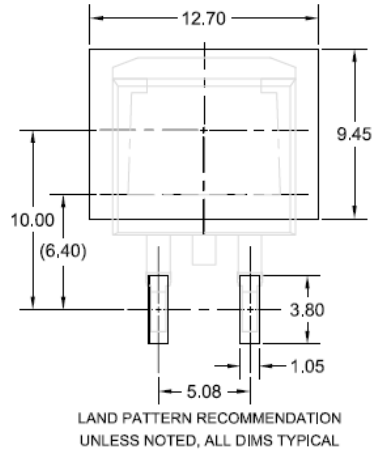
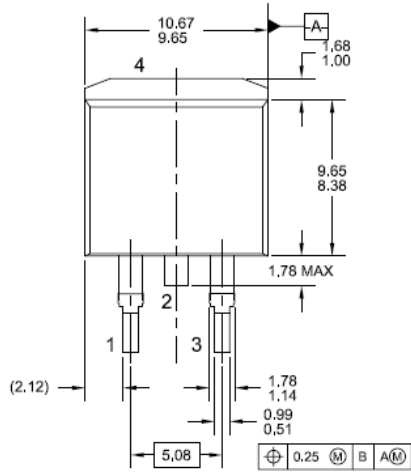


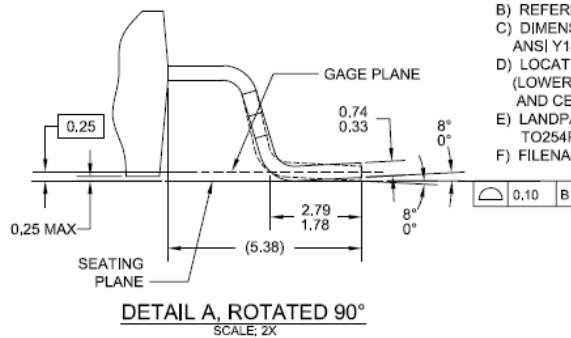
Figure 7. Reverse Bias Safe Operating

Physical Dimensions

D²-PAK



- NOTES: UNLESS OTHERWISE SPECIFIED
 A) ALL DIMENSIONS ARE IN MILLIMETERS.
 B) REFERENCE JEDEC, TO-263, VARIATION AB.
 C) DIMENSIONING AND TOLERANCING PER ANSI Y14.5M - 1994.
 D) LOCATION OF THE PIN HOLE MAY VARY (LOWER LEFT CORNER, LOWER CENTER AND CENTER OF THE PACKAGE).
 E) LANDPATTERN RECOMMENDATION PER IPC TO254P1524X482-3N
 F) FILENAME: TO263A02REV6







Dimensions in Millimeters



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