

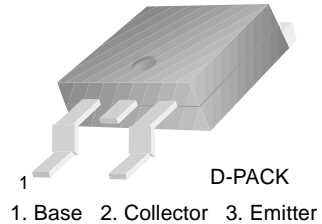


FJD3076

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Power Amplifier Applications

- Low Collector-Emitter Saturation Voltage



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CB0}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	32	V
V_{EBO}	Emitter-Base Voltage	5	V
I_C	Collector Current	2	A
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	1	W
	Collector Dissipation ($T_C=25^\circ\text{C}$)	10	W
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	- 55 ~ 150	$^\circ\text{C}$

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

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = 1\text{mA}, I_B = 0$	32			V
BV_{CB0}	Collector-Base Breakdown Voltage	$I_C = 50\mu\text{A}$	40			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = 50\mu\text{A}$	5			V
I_{CB0}	Collector Cut-off Current	$V_{CB} = 20\text{V}, I_E = 0$			1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 4\text{V}, I_C = 0$			1	μA
h_{FE}	DC Current Gain	$V_{CE} = 3\text{V}, I_C = 0.5\text{A}$	130		390	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.2\text{A}$		0.5	0.8	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 5\text{V}, I_E = -0.5\text{A}, f = 100\text{MHz}$		100		MHz
C_{ob}	Output Capacitance	$V_{CB} = 10\text{V}, I_E = 0\text{A}, f = 1\text{MHz}$		50		pF

Typical Characteristics

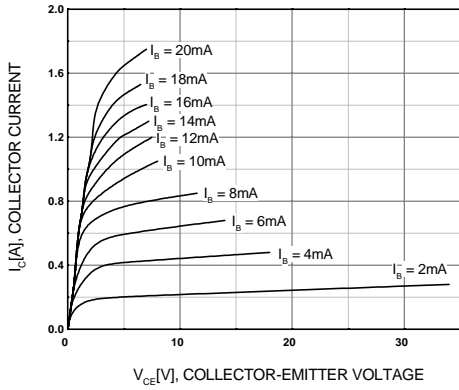


Figure 1. Static Characteristic

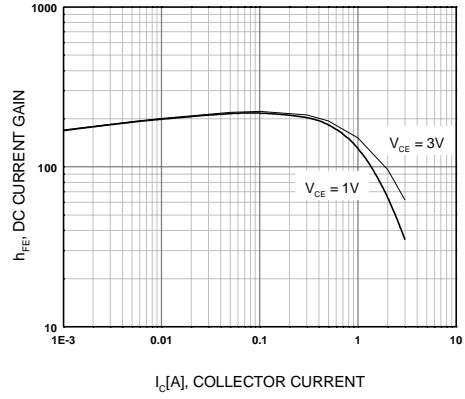


Figure 2. DC Current Gain

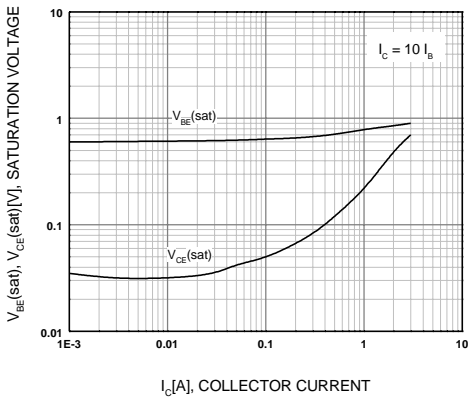


Figure 3. Base-Emitter Saturation Voltage
Collector-Emmitter Saturation Voltage

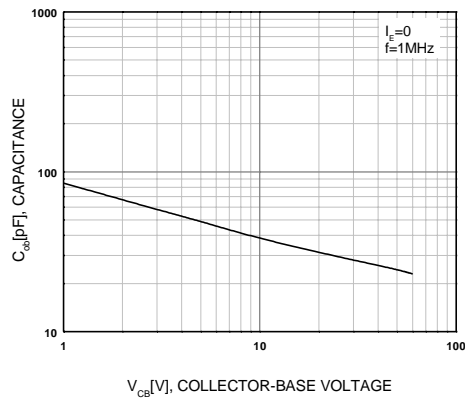


Figure 4. Collector Output Capacitance

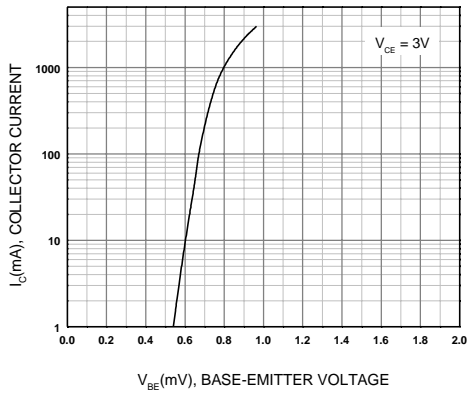


Figure 5. Base-Emitter On Voltage

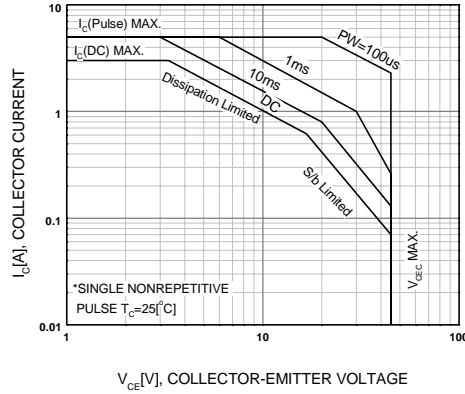
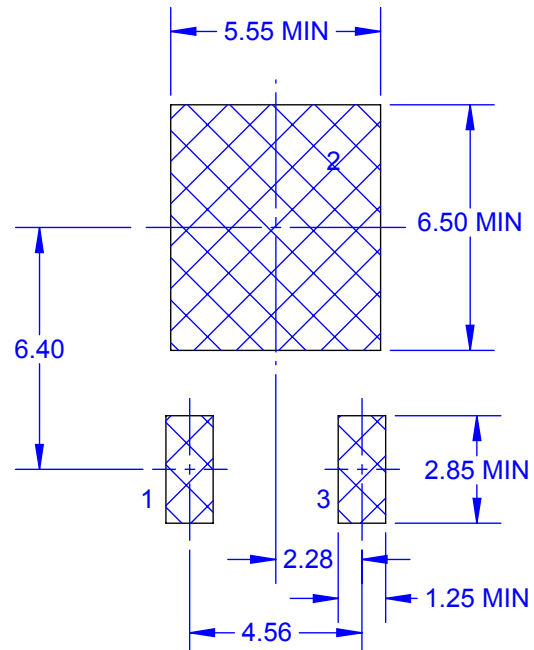
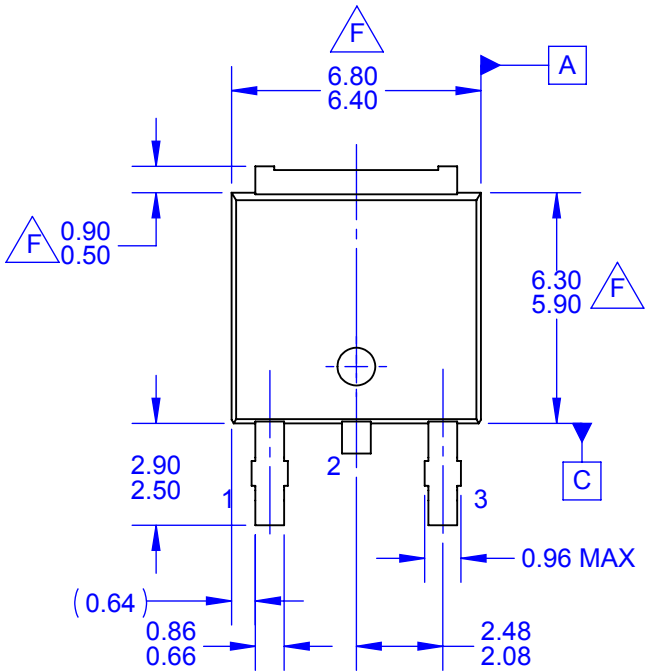
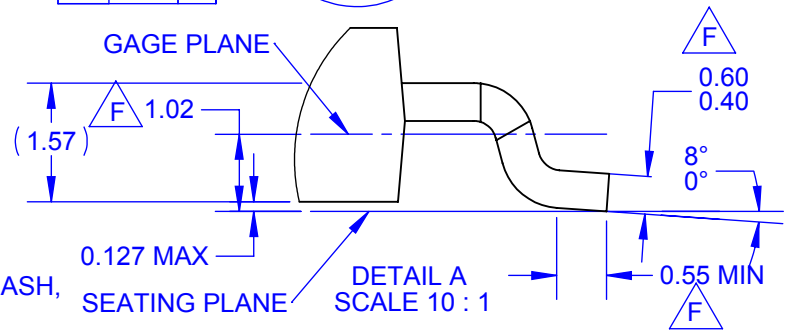
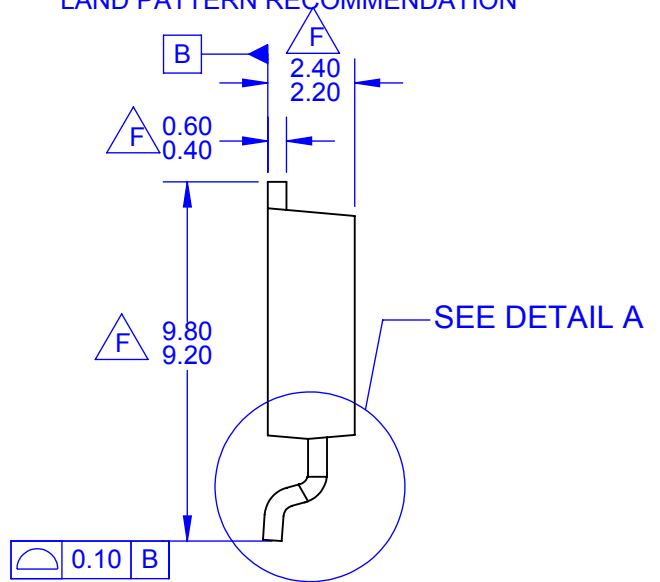
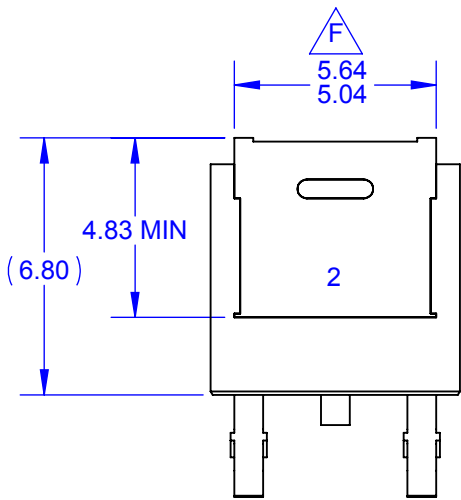


Figure 6. Safe Operating Area



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