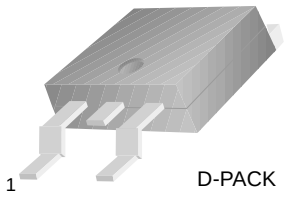
FJD3076

Power Amplifier Applications

- Low Collector-Emitter Saturation Voltage



D-PACK

1. Base 2. Collector 3. Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	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°C)	1	W
	Collector Dissipation (T_C=25°C)	10	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	- 55 ~ 150	°C

Electrical Characteristics T_C=25°C unless otherwise noted

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

Typical Characteristics

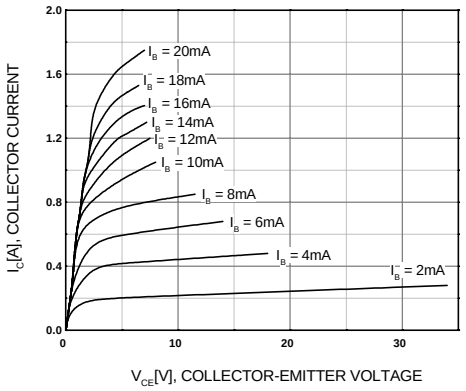


Figure 1. Static Characteristic

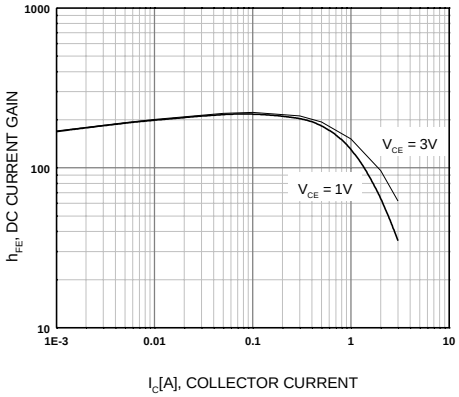


Figure 2. DC Current Gain

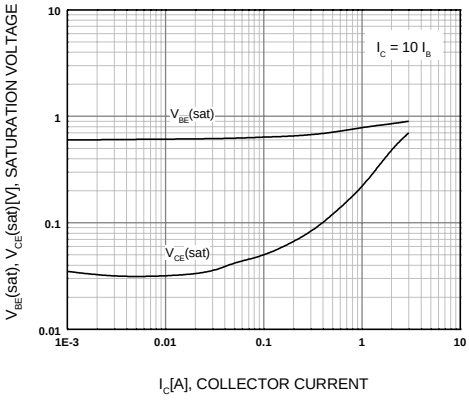


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage

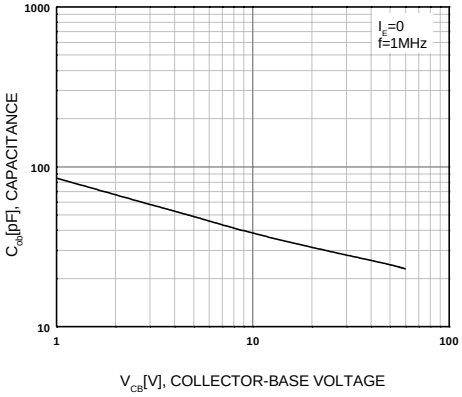


Figure 4. Collector Output Capacitance

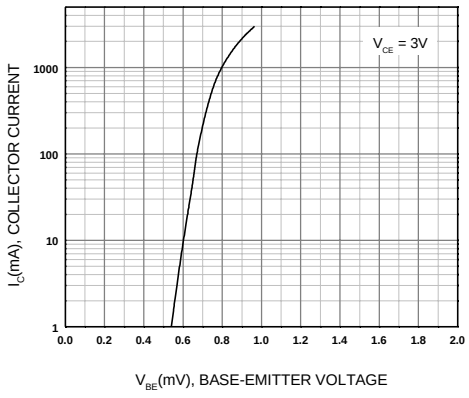


Figure 5. Base-Emitter On Voltage

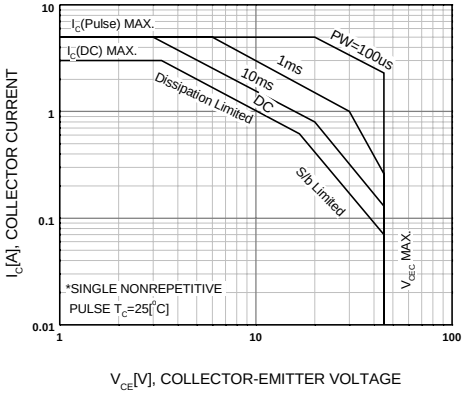
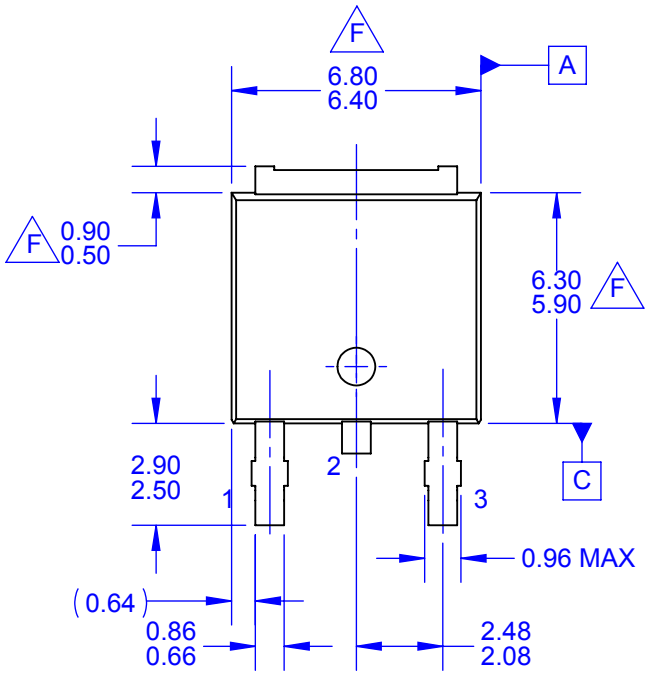
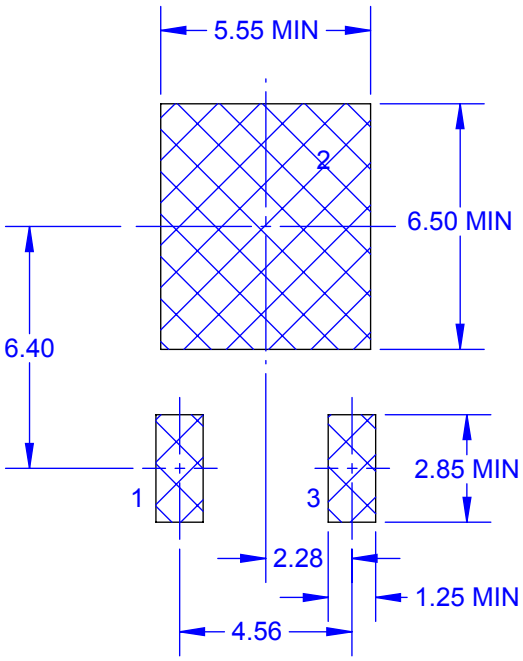
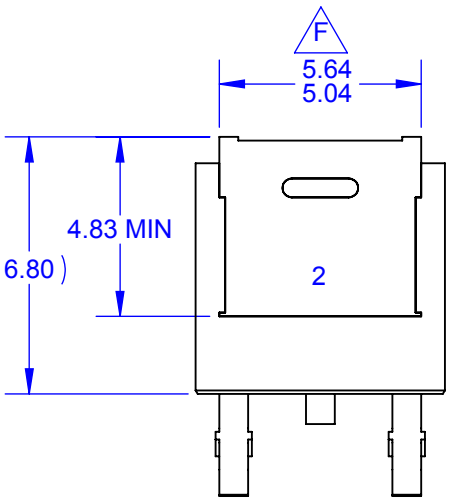


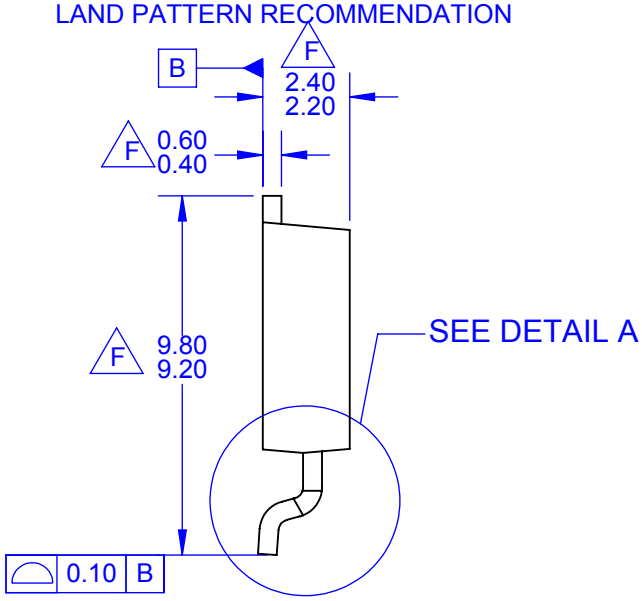
Figure 6. Safe Operating Area

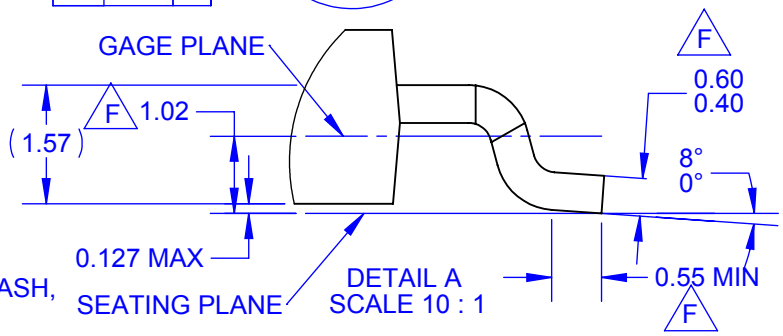




LAND PATTERN RECOMMENDATION







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