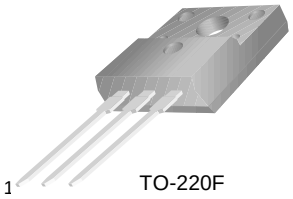
FAIRCHILD SEMICONDUCTOR™

KSB1023

Power Amplifier Applications

- High DC Current Gain
- Low Collector-Emitter Saturation Voltage
- Complement to KSD1413



TO-220F

1.Base 2.Collector 3.Emitter

PNP Silicon Darlington Transistor

Absolute Maximum Ratings T_C=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	- 60	V
V_{CEO}	Collector-Emitter Voltage	- 40	V
V_{EBO}	Emitter-Base Voltage	- 5	V
I_C	Collector Current (DC)	- 3	A
I_{CP}	Collector Current (Pulse)	- 6	A
I_B	Base Current	- 0.3	A
P_C	Collector Dissipation (T_a=25°C)	2	W
P_C	Collector Dissipation (T_C=25°C)	20	W
TJ	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 = - 25mA, I_B = 0	- 40			V
I_{CBO}	Collector Cut-off Current	V_{CB} = - 60V, I_E = 0			- 20	µA
I_{EBO}	Emitter Cut-off Current	V_{EB} = - 5V, I_C = 0			- 2.5	mA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE} = - 2V, I_C = - 1A V_{CE} = - 2V, I_C = - 3A	2000 1000			
V_{CE}(sat)	Collector-Emitter Saturation Voltage	I_C = - 2A, I_B = - 4mA			- 1.5	V
V_{BE}(sat)	Base-Emitter Saturation Voltage	I_C = - 2A, I_B = - 4mA			- 2	V
t_{ON}	Turn ON Time	V_{CC} = - 30V, I_C = - 3A I_{B1} = - I_{B2} = - 6mA R_L = 10Ω		0.3		µs
t_{STG}	Storage Time			0.6		µs
t_F	Fall Time			0.25		µs

Typical Characteristics

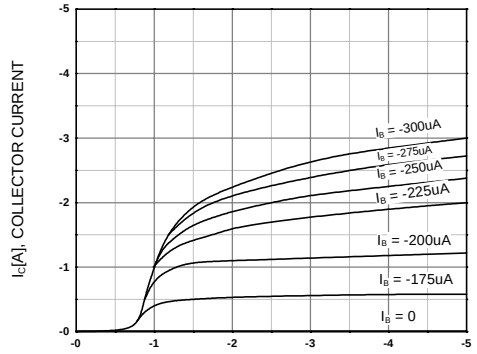


Figure 1. Static Characteristic

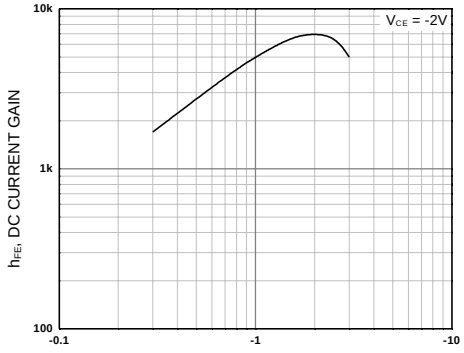


Figure 2. DC current Gain

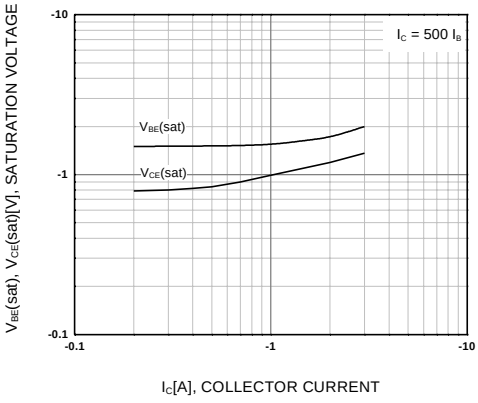


Figure 3. Base-Emitter Saturation Voltage Collector-Emitter Saturating Voltage

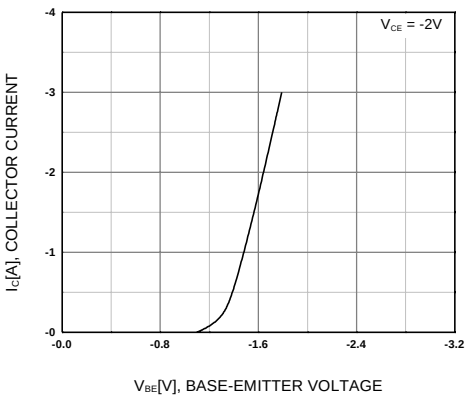


Figure 4. Base-Emitter On Voltage

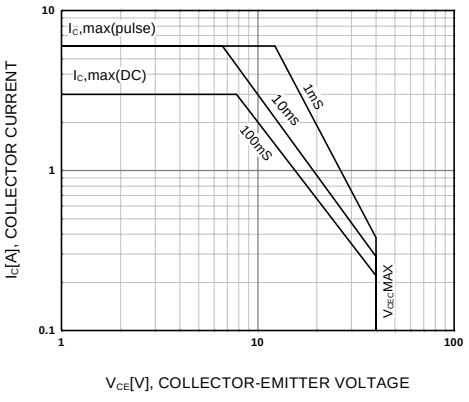


Figure 5. Safe Operating Area

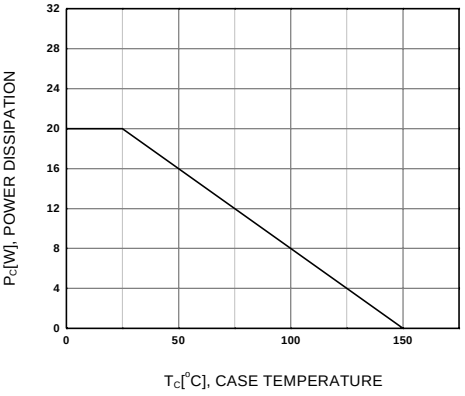
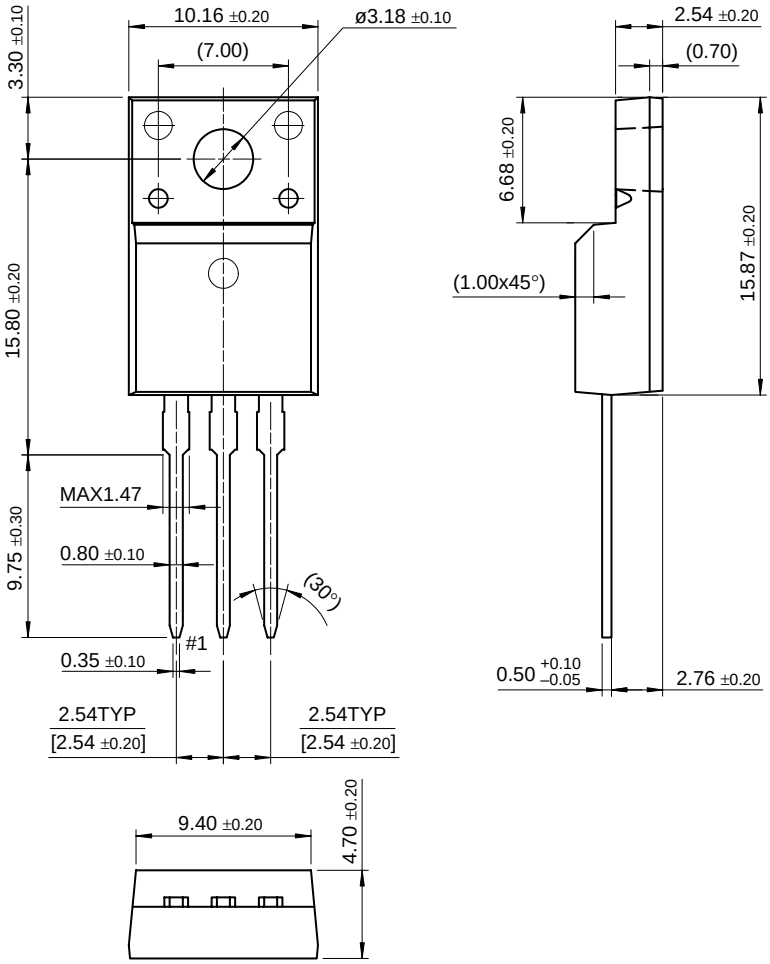


Figure 6. Power Derating

Package Demensions

TO-220F



Dimensions in Millimeters

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