

KSD1273

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High h_{FE} , AF Power Amplifier

- "Full PAK" Package for Simplified Mounting Only by a Screw, Requires no Insulator.



TO-220F
1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	80	V
V_{CEO}	Collector-Emitter Voltage	60	V
V_{EBO}	Emitter-Base Voltage	6	V
I_C	Collector Current (DC)	3	A
I_{CP}	Collector Current (Pulse)	6	A
I_B	Base Current	1	A
P_C	Collector Dissipation ($T_a=25^\circ\text{C}$)	2	W
P_C	Collector Dissipation ($T_C=25^\circ\text{C}$)	40	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 Voltage	$I_C = 25\text{mA}, I_B = 0$	60			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = 80\text{V}, I_E = 0$			100	μA
I_{CEO}	Collector Cut-off Current	$V_{CE} = 60\text{V}, I_B = 0$			100	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = 6\text{V}, I_C = 0$			100	μA
h_{FE}	DC Current Gain	$V_{CE} = 4\text{V}, I_C = 0.5\text{A}$	500		2500	
$V_{CE(sat)}$	Collector-Emitter Saturation Voltage	$I_C = 2\text{A}, I_B = 0.05\text{A}$			1	V
f_T	Current Gain Bandwidth Product	$V_{CE} = 12\text{V}, I_C = 0.2\text{A}$		30		MHz

h_{FE} Classification

Classification	Q	P	O
h_{FE}	500 ~ 1000	800 ~ 1500	1200 ~ 2500

Typical Characteristics

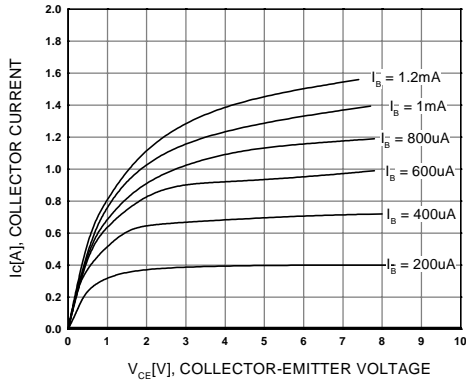


Figure 1. Static Characteristic

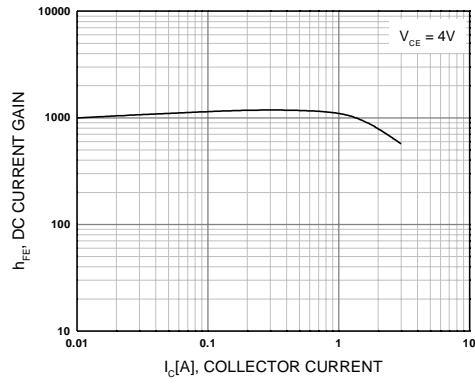


Figure 2. DC current Gain

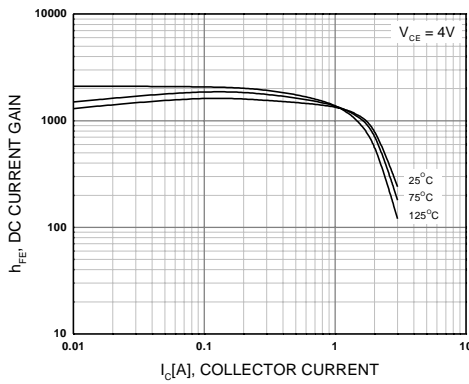


Figure 3. DC current Gain

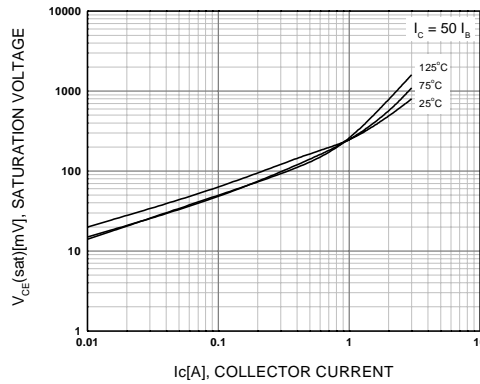


Figure 4. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

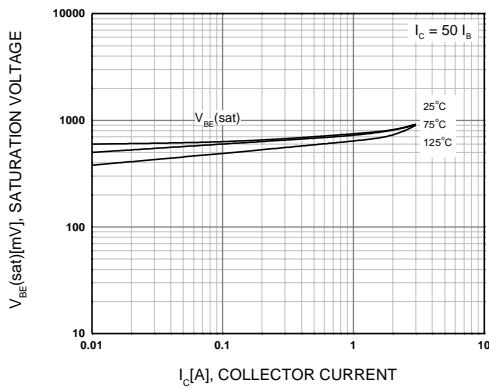


Figure 5. Collector-Base Saturation Voltage

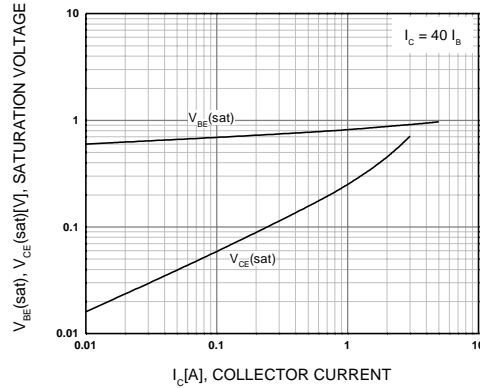


Figure 6. Base-Emitter Saturation Voltage

Typical Characteristics (Continued)

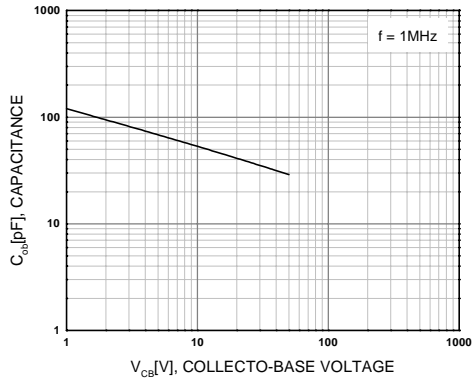


Figure 7. Collector Output Capacitance

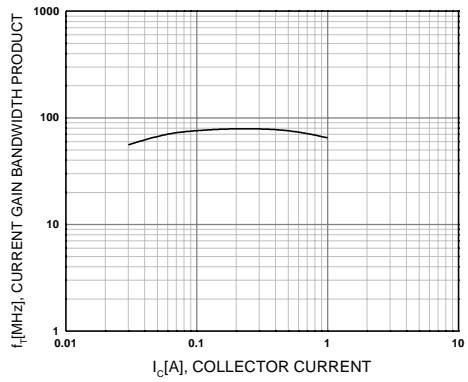


Figure 8. Current Gain Bandwidth Product

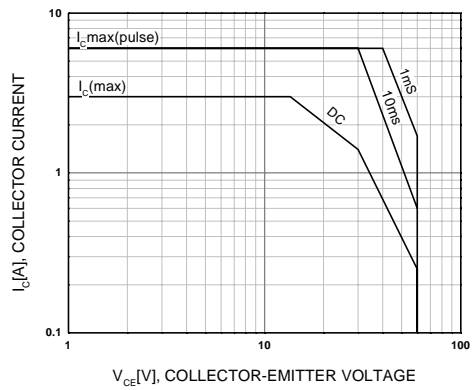


Figure 9. Safe Operating Area

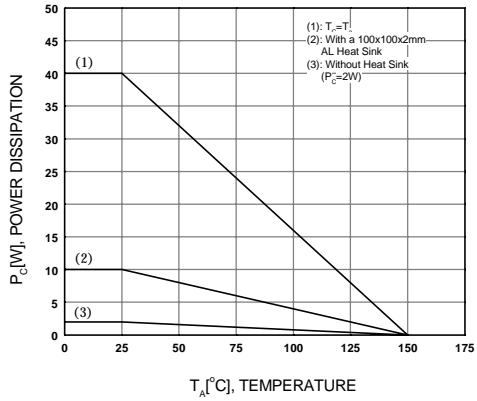
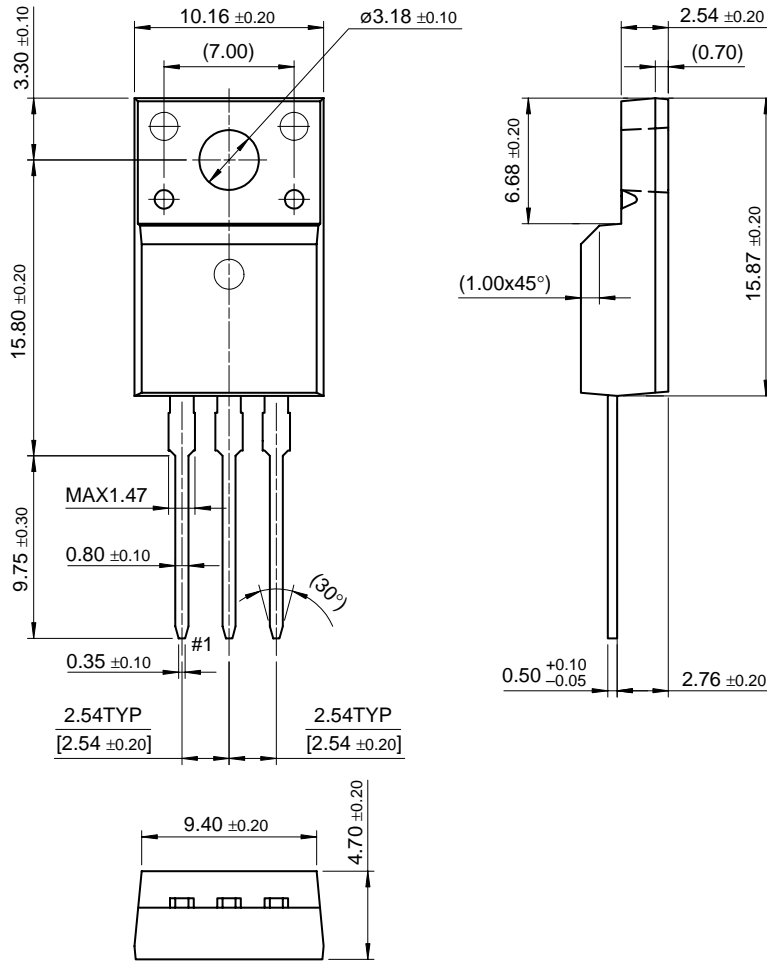


Figure 10. Power Derating

Package Dimensions

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Dimensions in Millimeters