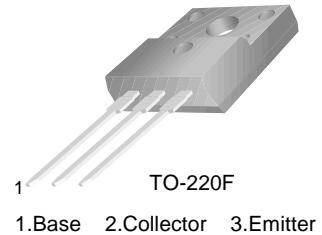


## KSD1273

### High $h_{FE}$ , AF Power Amplifier

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



### 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	$\mu\text{A}$
$I_{CEO}$	Collector Cut-off Current	$V_{CE} = 60\text{V}$ , $I_B = 0$			100	$\mu\text{A}$
$I_{EBO}$	Emitter Cut-off Current	$V_{EB} = 6\text{V}$ , $I_C = 0$			100	$\mu\text{A}$
$h_{FE}$	DC Current Gain	$V_{CE} = 4\text{V}$ , $I_C = 0.5\text{A}$	500		2500	
$V_{CE(\text{sat})}$	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

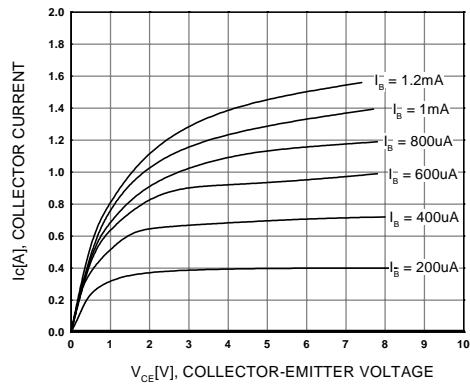


Figure 1. Static Characteristic

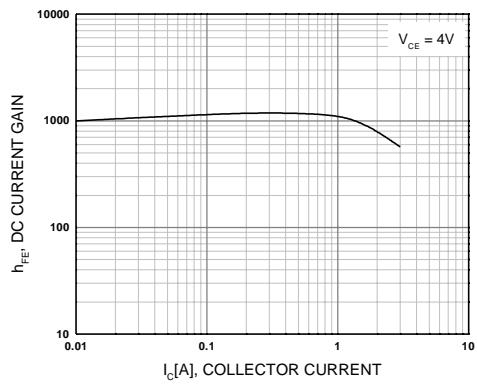


Figure 2. DC current Gain

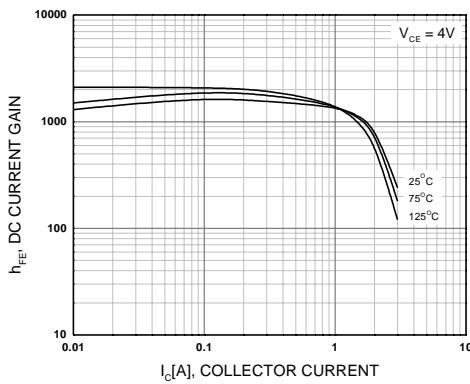


Figure 3. DC current Gain

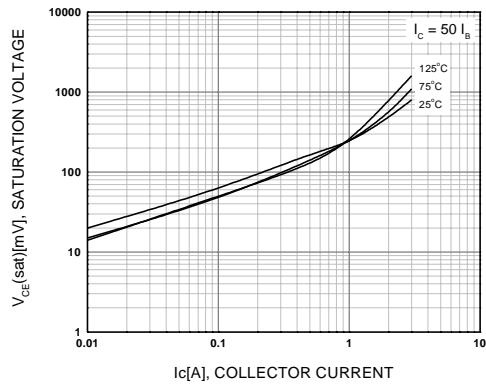


Figure 4. Base-Emitter Saturation Voltage  
Collector-Emitter Saturation Voltage

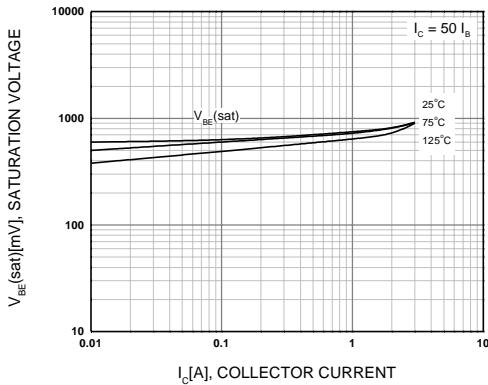


Figure 5. Collector-Base Saturation Voltage

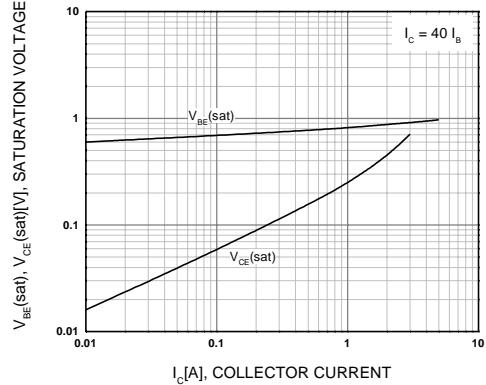


Figure 6. Base-Emitter Saturation Voltage

## Typical Characteristics (Continued)

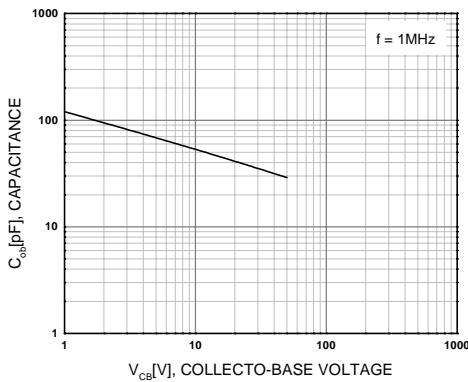


Figure 7. Collector Output Capacitance

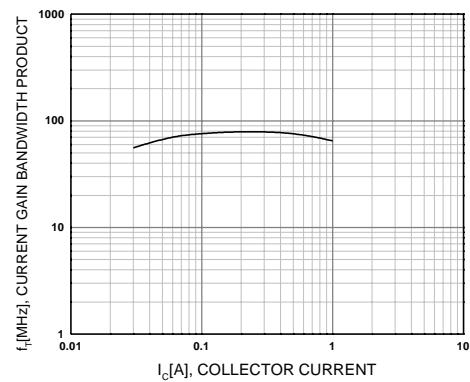


Figure 8. Current Gain Bandwidth Product

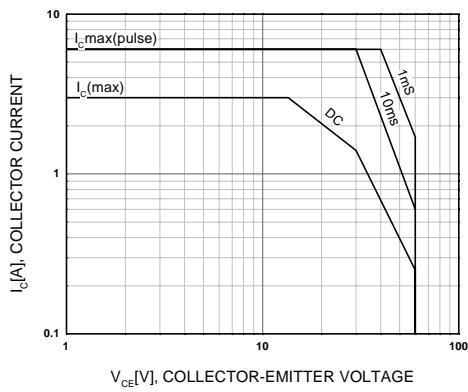


Figure 9. Safe Operating Area

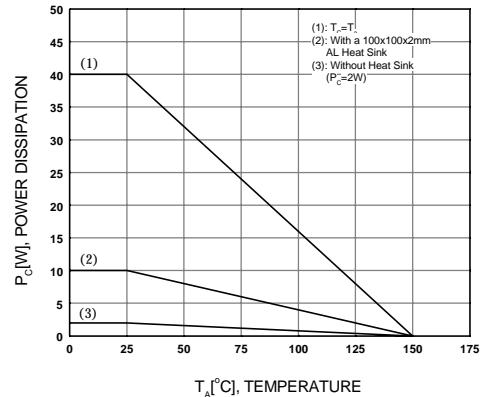
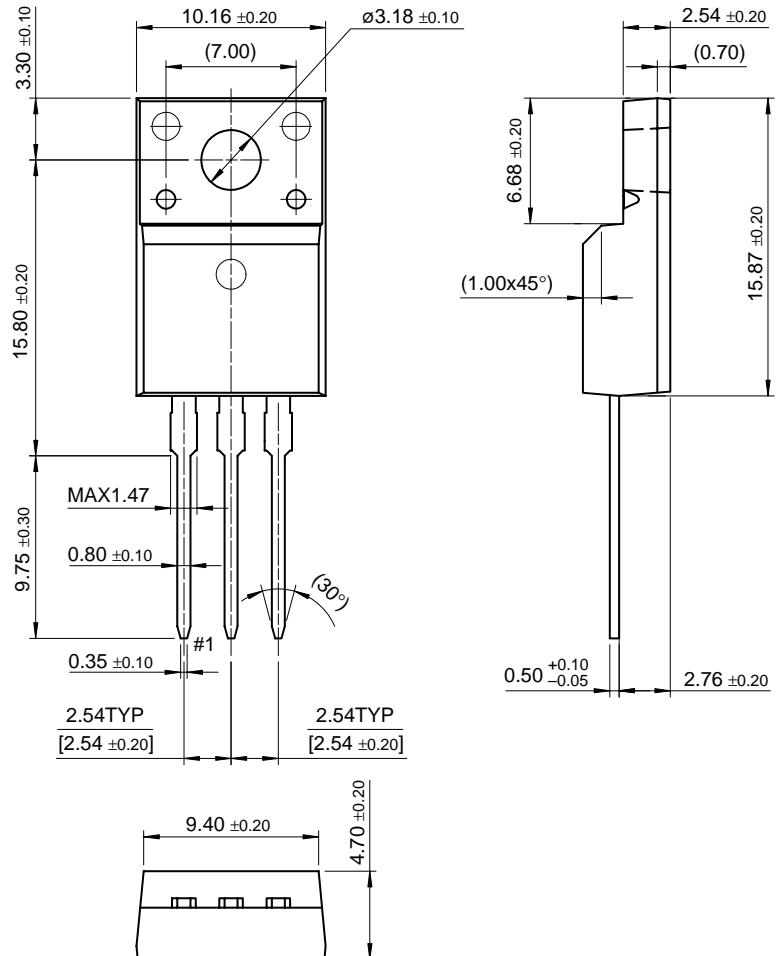


Figure 10. Power Derating

## Package Demensions

## TO-220F



Dimensions in Millimeters

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E <sup>2</sup> CMOS™	LittleFET™	QT Optoelectronics™	TinyLogic™
EnSigna™	MicroFET™	Quiet Series™	UHC™
FACT™	MICROWIRE™	SLIENT SWITCHER®	UltraFET®
FACT Quiet Series™	OPTOLOGIC™	SMART START™	VCXTM

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No Identification Needed	Full Production	This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice in order to improve design.
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