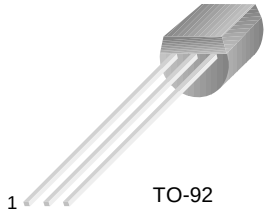
FAIRCHILD
SEMICONDUCTOR®

KSD5041

AF Output Amplifier for Electronic Flash Unit

- Low Collector-Emitter Saturation Voltage
- High Performance at Low Supply Voltage



TO-92

1. Emitter 2. Collector 3. Base

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{CBO}	Collector-Base Voltage	40	V
V_{CEO}	Collector-Emitter Voltage	20	V
V_{EBO}	Emitter-Base Voltage	7	V
I_C	Collector Current	5	A
P_C	Collector Power Dissipation	0.75	W
T_J	Junction Temperature	150	°C
T_{STG}	Storage Temperature	-55 ~ 150	°C

Electrical Characteristics T_a=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	20			V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_C=10μA, I_C=0	7			V
I_{CBO}	Collector Cut-off Current	V_{CB}=10V, I_E=0			0.1	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}=7V, I_C=0			0.1	μA
h_{FE1} h_{FE2}	DC Current Gain	V_{CE}=2V, I_C=0.5A V_{CE}=2V, I_C=2A	180 150		600	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	I_C=3A, I_B=0.1A			1	V
f_T	Current Gain Bandwidth Product	V_{CE}=6V, I_C=50mA		150		MHz
C_{ob}	Output Capacitance	V_{CB}=20V, I_E=0, f=1MHz			50	pF

h_{FE} Classification

Classification	P	Q	R
h_{FE}	180 ~ 270	230 ~ 380	340 ~ 600

Typical Characteristics

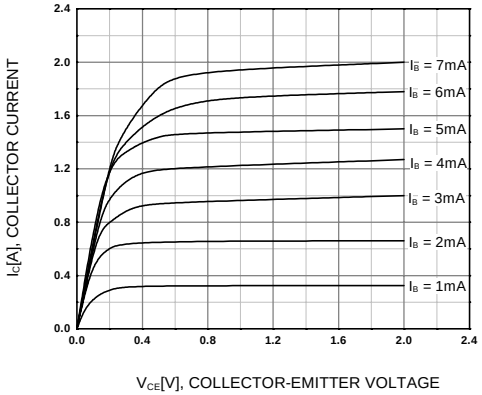


Figure 1. Static Characteristic

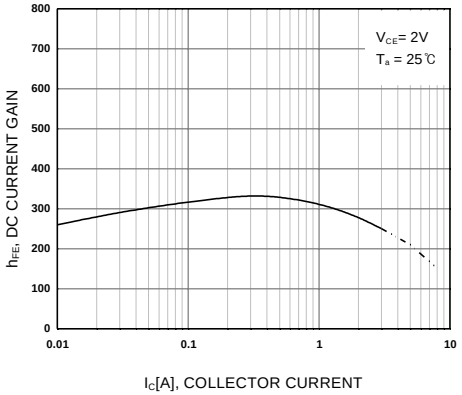


Figure 2. DC current Gain

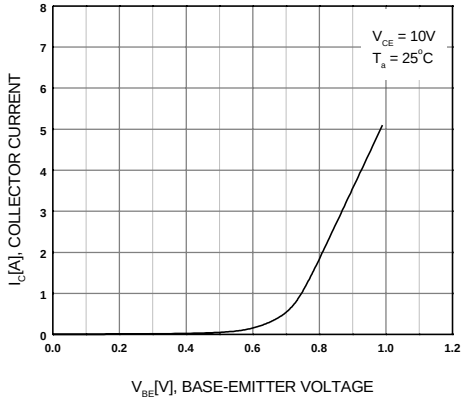


Figure 3. Base-Emitter Saturation Voltage

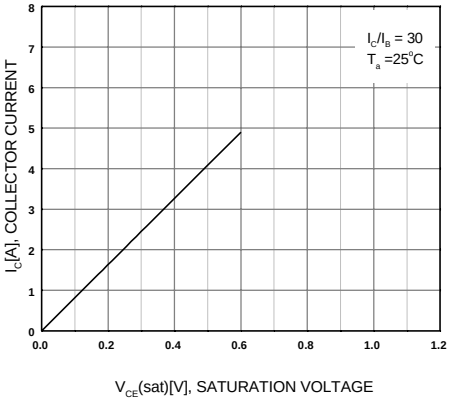


Figure 4. Collector-Emitter Saturation Voltage

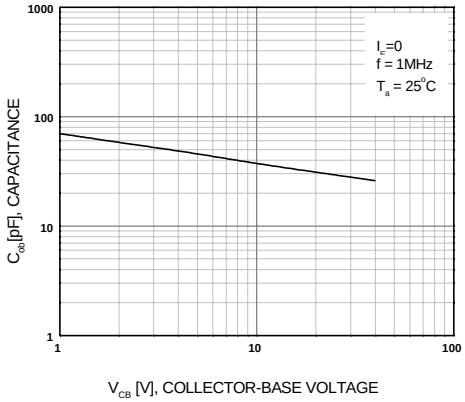


Figure 5. Collector Output Capacitance

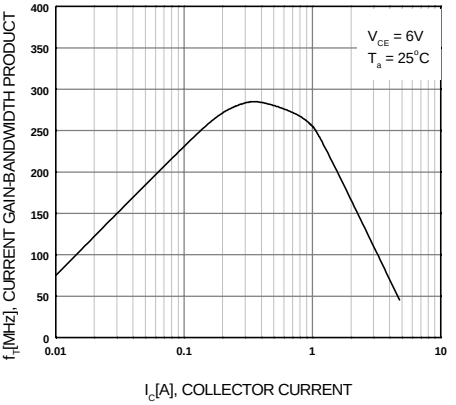


Figure 6. Current Gain Bandwidth Product

Typical Characteristics (Continued)

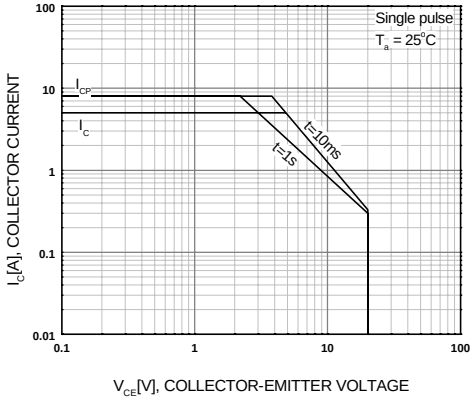


Figure 7. Safe Operating Area

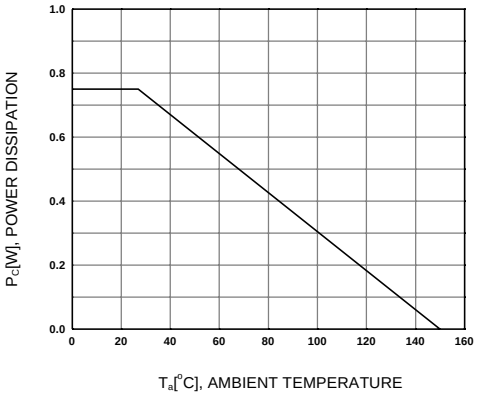
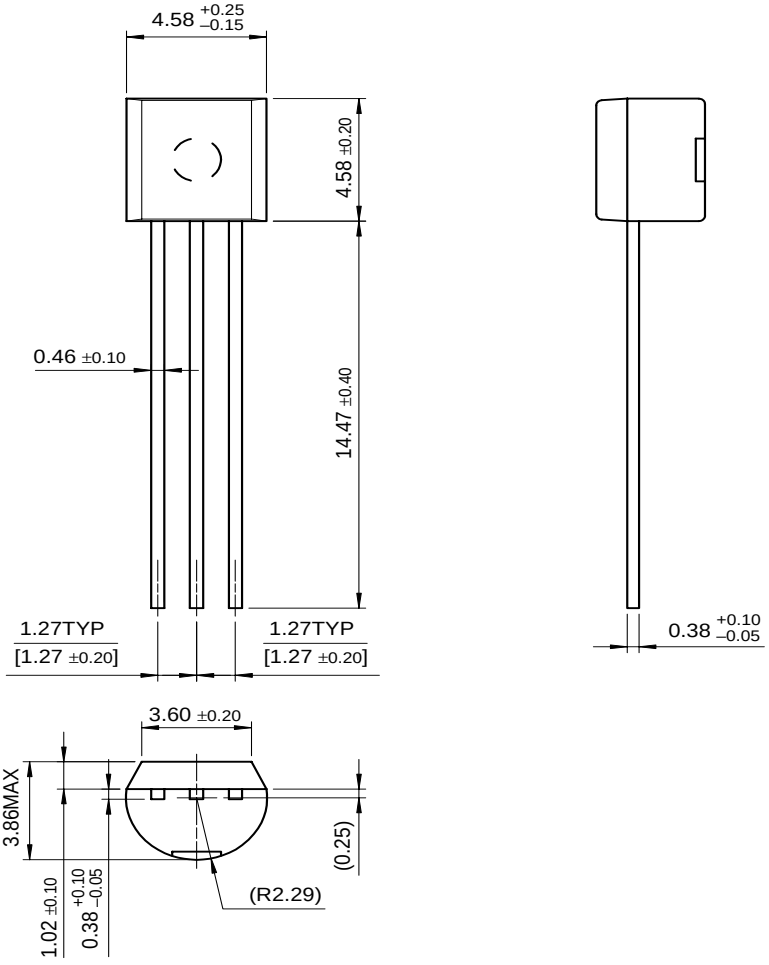


Figure 8. Power Derating

Package Dimensions

TO-92



Dimensions in Millimeters

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DOME™	GlobalOptoisolator™	MICROWIRE™	QS™	SyncFET™
EcoSPARK™	GTO™	MSX™	QT Optoelectronics™	TinyLogic™
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