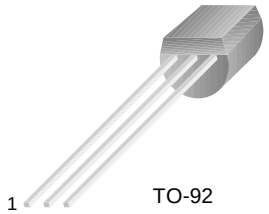
FAIRCHILD
SEMICONDUCTOR®

KSP92/93

High Voltage Transistor



TO-92

1. Emitter 2. Base 3. Collector

PNP Epitaxial Silicon Transistor

Absolute Maximum Ratings T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage		
	: KSP92	-300	V
	: KSP93	-200	V
V_{CEO}	Collector-Emitter Voltage		
	: KSP92	-300	V
	: KSP93	-200	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-500	mA
P_C	Collector Power Dissipation (T_a=25°C)	625	mW
	Derate above 25°C	5	mW/°C
P_C	Collector Power Dissipation (T_C=25°C)	1.5	W
	Derate above 25°C	12	mW/°C
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.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	I_C= -100μA, I_E=0			
	: KSP92		-300		V
	: KSP93		-200		V
BV_{CEO}	* Collector-Emitter Breakdown Voltage	I_C= -1mA, I_B=0			
	: KSP92		-300		V
	: KSP93		-200		V
BV_{EBO}	Emitter-Base Breakdown Voltage	I_E= -100μA, I_C=0	-5		V
I_{CBO}	Collector Cur-off Current				
	: KSP92	V_{CB}= -200V, I_E=0		-0.25	μA
	: KSP93	V_{CB}= -160V, I_E=0		-0.25	μA
I_{EBO}	Emitter Cut-off Current	V_{EB}= -3V, I_C=0		-0.10	μA
h_{FE}	* DC Current Gain	V_{CE}= -10V, I_C= -1mA	25		
		V_{CE}= -10V, I_C= -10mA	40		
		V_{CE}= -10V, I_C= -30mA	25		
V_{CE} (sat)	*Collector-Emitter Saturation Voltage	I_C= -20mA, I_B= -2mA		-0.50	V
V_{BE} (sat)	* Base-Emitter Saturation Voltage	I_C= -20mA, I_B= -2mA		-0.90	V
f_T	Current Gain Bandwidth Product	V_{CE}= -20V, I_C= -10mA, f=100MHz	50		MHz
C_{ob}	Output Capacitance				
	: KSP92	V_{CB}= -20V, I_E=0		6	pF
	: KSP93	f=1MHz		8	pF

* Pulse Test: PW≤300μs, Duty Cycle≤2%

Typical Characteristics

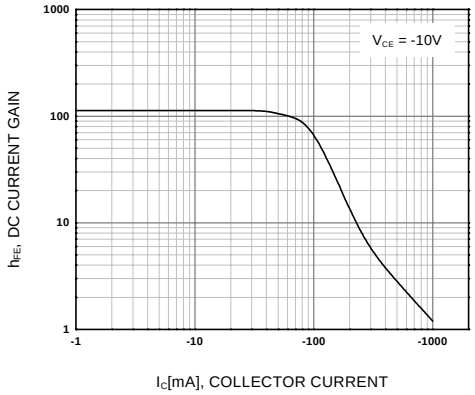


Figure 1. DC current Gain

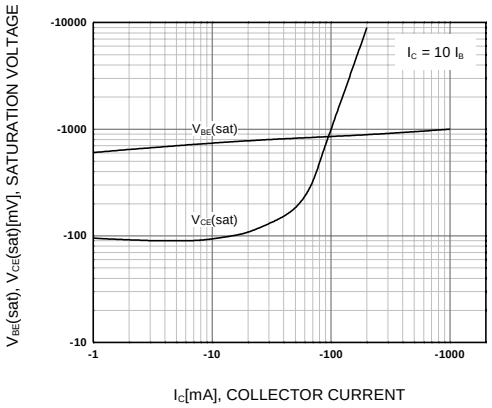


Figure 2. Saturation Voltage

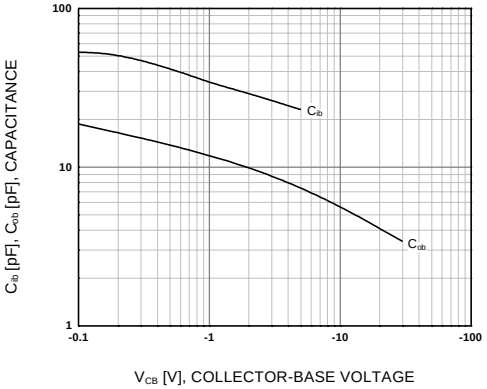


Figure 3. Capacitance

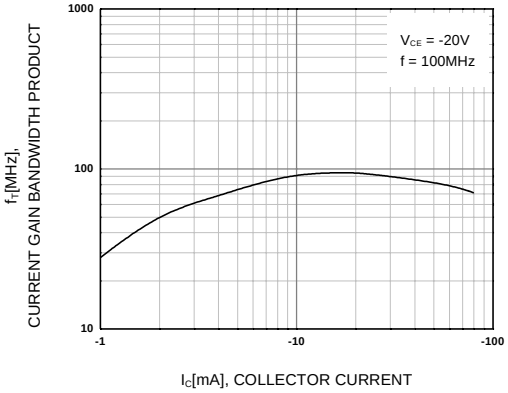


Figure 4. Current Gain Bandwidth Product

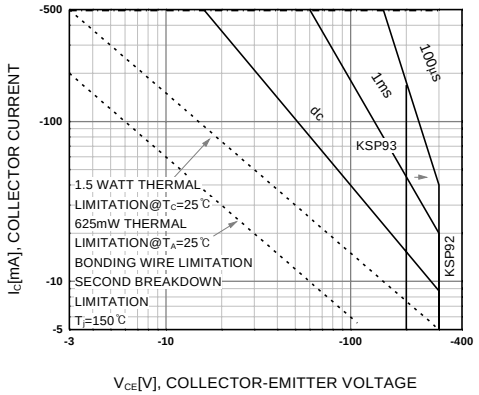
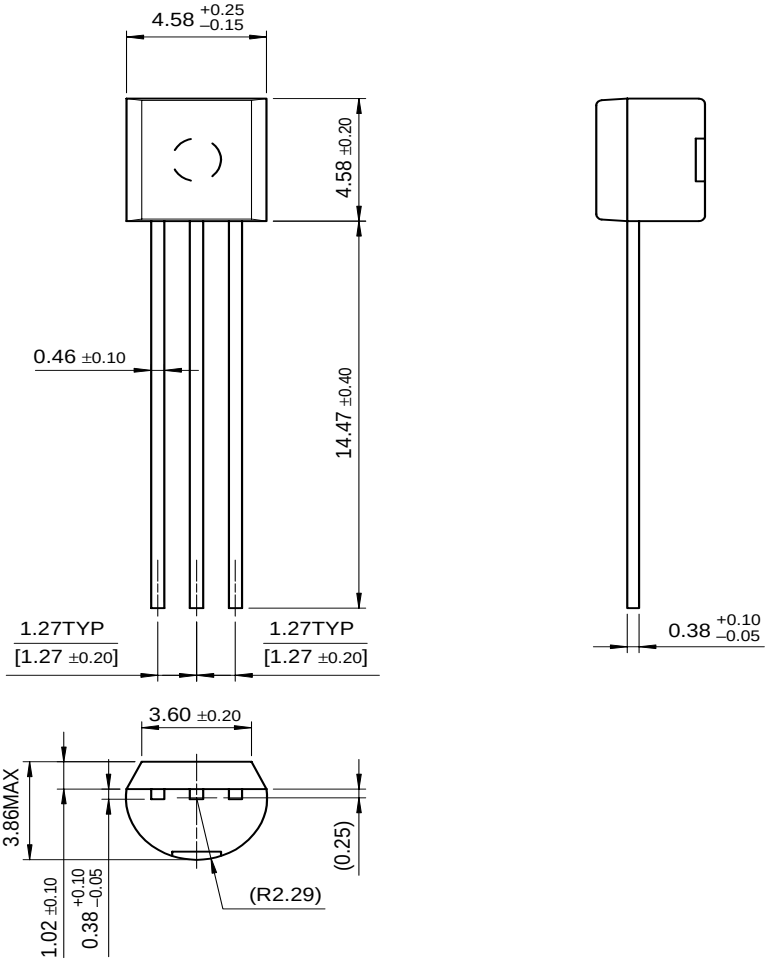


Figure 5. Active-Regio Safe Operating Area

Package Demensions

TO-92



Dimensions in Millimeters

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