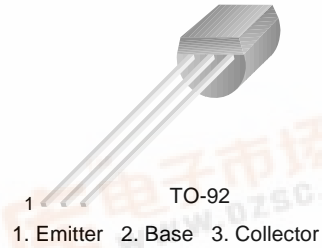


FAIRCHILD
SEMICONDUCTOR®

KSP5179

High Frequency Transistor



NPN Epitaxial Silicon Transistor

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

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	20	V
V_{CEO}	Collector-Emitter Voltage	12	V
V_{EBO}	Emitter-Base Voltage	2.5	V
I_C	Collector Current	50	mA
P_C	Collector Power Dissipation ($T_a=25^\circ\text{C}$)	200	mW
	Derate above 25°C	1.6	mW/ $^\circ\text{C}$
P_C	Collector Power Dissipation ($T_C=25^\circ\text{C}$)	300	mW
	Derate above 25°C	2.4	mW/ $^\circ\text{C}$
T_J	Junction Temperature	150	$^\circ\text{C}$
T_{STG}	Storage Temperature	-55 ~ 150	$^\circ\text{C}$

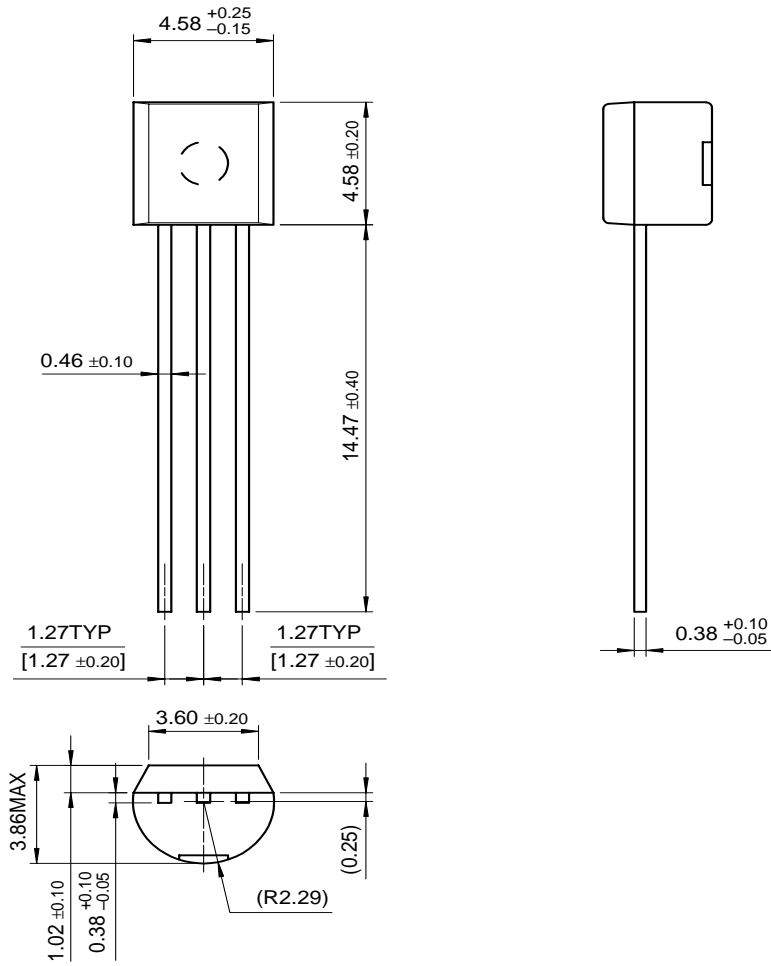
Electrical Characteristics $T_a=25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Max.	Units
V_{CEO} (sus)	Collector-Emitter Sustaining Voltage	$I_C=3\text{mA}, I_B=0$	12		V
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=10\mu\text{A}, I_E=0$	20		V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}, I_C=0$	2.5		V
I_{CBO}	Collector Cut-off Current	$V_{CB}=15\text{V}, I_E=0$		0.02	μA
		$V_{CB}=15\text{V}, I_E=0, T_a=150^\circ\text{C}$		1	μA
h_{FE}	DC Current Gain	$V_{CB}=1\text{V}, I_C=3\text{mA}$	25	250	
V_{CE} (sat)	Collector-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$		0.4	V
V_{BE} (sat)	Base-Emitter Saturation Voltage	$I_C=10\text{mA}, I_B=1\text{mA}$		1	V
f_T	Current Gain Bandwidth Product	$V_{CE}=6\text{V}, I_C=5\text{mA}$	900	2000	MHz
C_{ob}	Output Capacitance	$V_{CB}=10\text{V}, I_E=0, f=0.1$ to 1 MHz		1	pF
h_{fe}	Small Signal Current Gain	$V_{CE}=6\text{V}, I_C=2\text{mA}, f=1\text{KHz}$	25	300	
$C_C - r_{bb}'$	Collector Base Time Constant	$V_{CE}=6\text{V}, I_E=2\text{mA}, f=31.9\text{MHz}$	3	14	ps
NF	Noise Figure	$V_{CE}=6\text{V}, I_C=1.5\text{mA}, f=200\text{MHz}$ $R_S=50\Omega$		4.5	dB



Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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E ² CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I ² C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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Definition of Terms

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