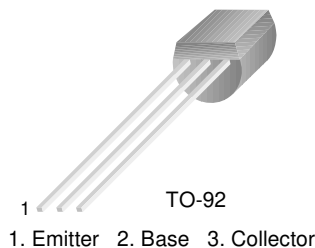


KSP8098/8099

Amplifier Transistor

- Collector-Emitter Voltage: V_{CE0} = KSP8098: 60V
KSP8099: 80V
- Collector Power Dissipation: P_C (max)=625mW
- Suffix "-C" means Center Collector (1. Emitter 2. Collector 3. Base)



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	: KSP8098	60	V
		: KSP8099	80	V
V_{CEO}	Collector-Emitter Voltage	: KSP8098	60	V
		: KSP8099	80	V
V_{EBO}	Emitter-Base Voltage	6	V	
I_C	Collector Current	500	mA	
P_C	Collector Power Dissipation	625	mW	
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	
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C=100\mu\text{A}, I_E=0$: KSP8098	60	V	
			: KSP8099	80	V	
BV_{CEO}	* Collector-Emitter Breakdown Voltage	$I_C=10\text{mA}, I_B=0$: KSP8098	60	V	
			: KSP8099	80	V	
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E=10\mu\text{A}, I_C=0$	6		V	
I_{CBO}	Collector Cut-off Current	$V_{CB}=60\text{V}, I_E=0$ $V_{CB}=80\text{V}, I_E=0$		100	nA	
				100	nA	
I_{CEO}	Collector Cut-off Current	$V_{CE}=60\text{V}, I_B=0$		100	nA	
I_{EBO}	Emitter Cut-off Current	$V_{EB}=6\text{V}, I_C=0$		100	nA	
h_{FE}	DC Current Gain	$V_{CE}=5\text{V}, I_C=1\text{mA}$ $V_{CE}=5\text{V}, I_C=10\text{mA}$ $V_{CE}=5\text{V}, I_C=100\text{mA}$	100	300		
			100			
			75			
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C=100\text{mA}, I_B=5\text{mA}$ $I_C=100\text{mA}, I_B=10\text{mA}$		0.4	V	
				0.3	V	
$V_{BE}(\text{on})$	* Base-Emitter On Voltage	$V_{CE}=5\text{V}, I_C=1\text{mA}$ $V_{CE}=5\text{V}, I_C=10\text{mA}$: KSP8098	0.5	0.7	V
			: KSP8099	0.6	0.8	V
f_T	Current Gain Bandwidth Product	$V_{CE}=5\text{V}, I_C=10\text{mA}$ $f=100\text{MHz}$	150		MHz	
C_{ob}	Output Capacitance	$V_{CB}=5\text{V}, I_E=0$ $f=1\text{MHz}$		6	pF	

* Pulse Test: Pulse Width $\leq 300\mu\text{s}$, Duty Cycle $\leq 2\%$

Typical Characteristics

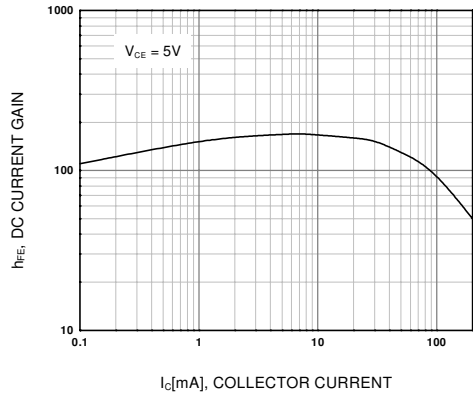


Figure 1. DC current Gain

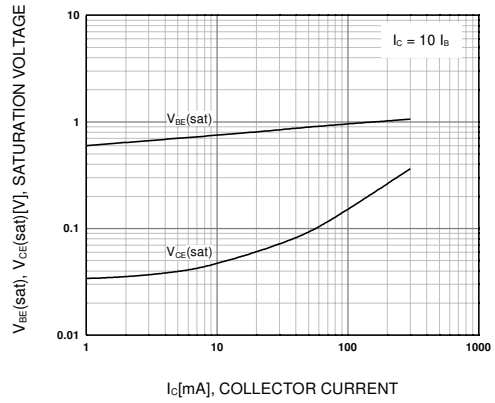


Figure 2. Collector-Emitter Saturation Voltage
Base-Emitter Saturation Voltage

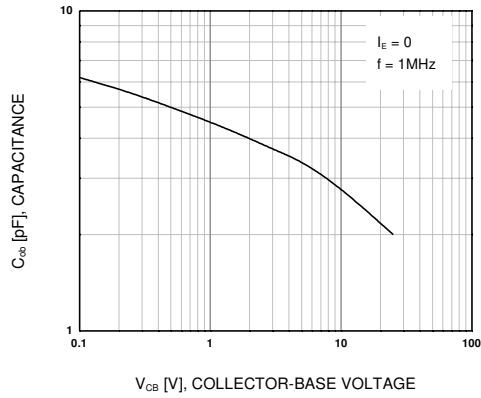


Figure 3. Output Capacitance

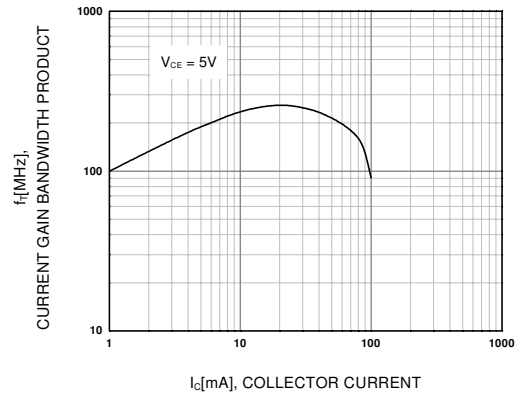
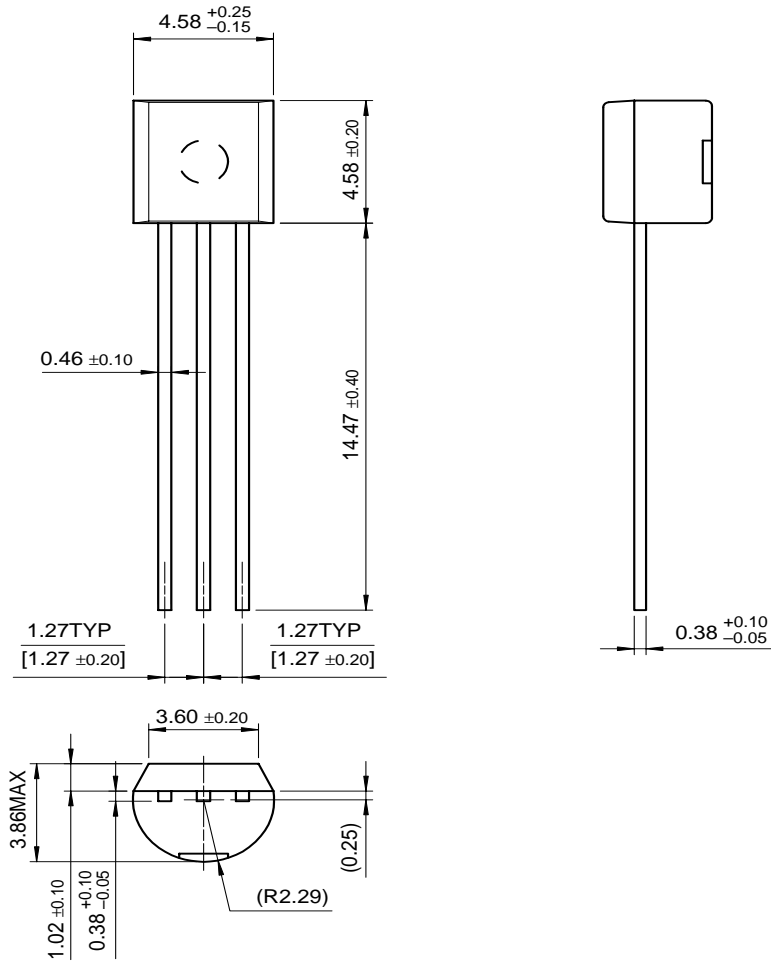


Figure 4. Current Gain Bandwidth Product

Package Dimensions

TO-92

KSP8098/8099



Dimensions in Millimeters

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