



TO-92L Plastic-Encapsulate Transistors

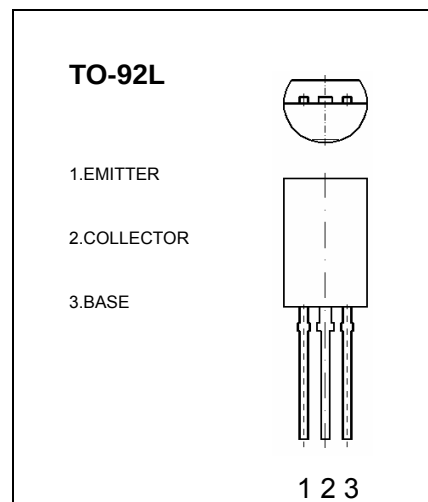
KSA931 TRANSISTOR (PNP)

FEATURE

- Low Frequency Amplifier
- Medium Speed Switching

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ 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	-8	V
I_C	Collector Current -Continuous	-0.7	A
P_C	Collector Power Dissipation	1	W
T_J	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55 to +150	$^{\circ}\text{C}$



ELECTRICAL CHARACTERISTICS ($T_{amb}=25^{\circ}\text{C}$ unless otherwise specified)

Parameter	Symbol	Test conditions	MIN	TYPE	MAX	UNIT
Collector-base breakdown voltage	$V(BR)_{CBO}$	$I_C = -100\mu\text{A}$, $I_E = 0$	-80			V
Collector-emitter breakdown voltage	$V(BR)_{CEO}$	$I_C = -10\text{mA}$, $I_B = 0$	-60			V
Emitter-base breakdown voltage	$V(BR)_{EBO}$	$I_E = -100\mu\text{A}$, $I_C = 0$	-8			V
Collector cut-off current	I_{CBO}	$V_{CB} = -60\text{V}$, $I_E = 0$			-0.1	μA
Emitter cut-off current	I_{EBO}	$V_{EB} = -5\text{V}$, $I_C = 0$			-0.1	μA
DC current gain	h_{FE}	$V_{CE} = -2\text{V}$, $I_C = -50\text{mA}$	40		240	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$			-0.7	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -500\text{mA}$, $I_B = -50\text{mA}$			-1.2	V
Transition frequency	f_T	$V_{CE} = -10\text{V}$, $I_C = -50\text{mA}$		100		MHz
Collector output capacitance	C_{ob}	$V_{CB} = -10\text{V}$, $I_E = 0$, $f = 1\text{MHz}$		13		pF

CLASSIFICATION OF h_{FE}

Rank	R	O	Y
Range	40-80	70-140	120-240

Typical Characteristics

KSA931

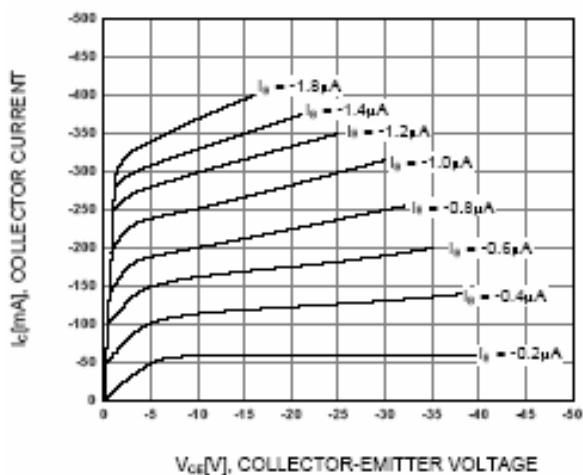


Figure 1. Static Characteristic

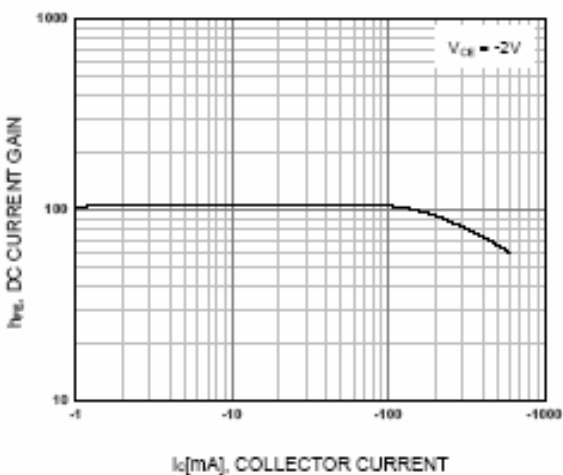


Figure 2. DC current Gain

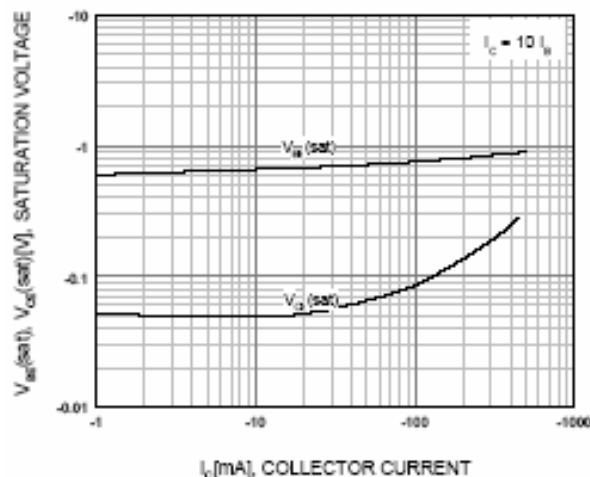


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

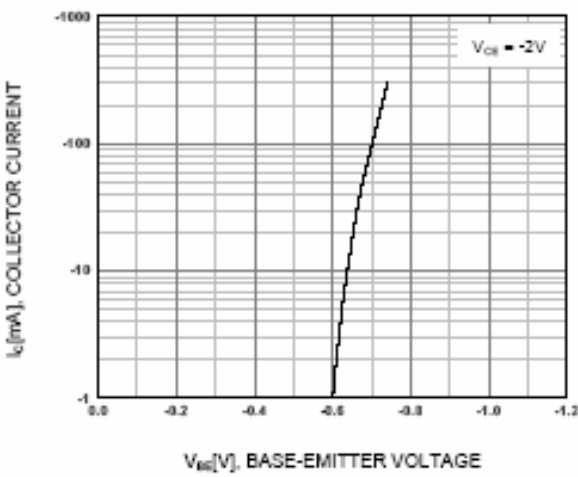


Figure 4. Base-Emitter On Voltage

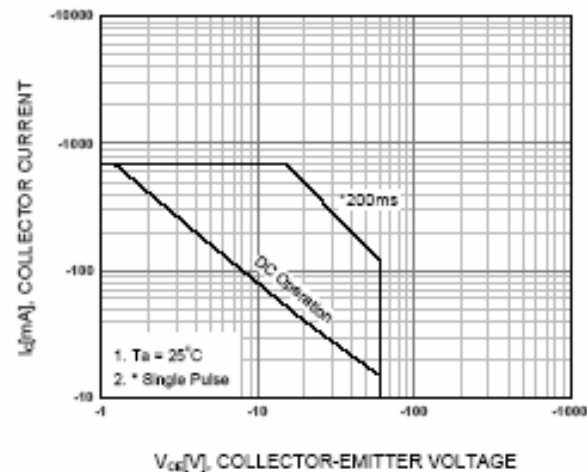


Figure 5. Safe Operating Area

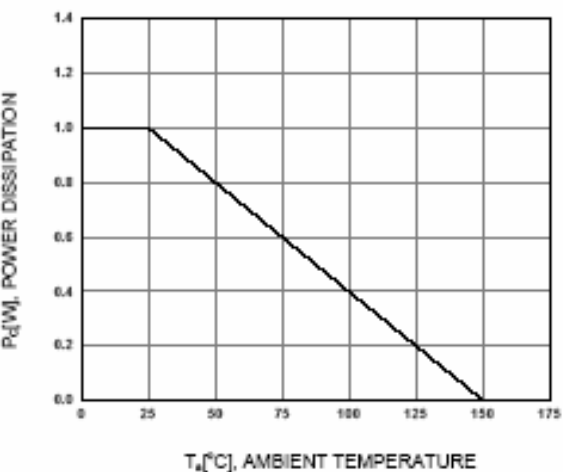


Figure 6. Power Derating

