

**TO-92 Plastic-Encapsulate Transistors****KSA643** TRANSISTOR (PNP)**FEATURE**

- Collector dissipation
- Complement to KSD261

MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-40	V
V_{CEO}	Collector-Emitter Voltage	-20	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_{C}	Collector Current -Continuous	-500	mA
P_{C}	Collector Power Dissipation	500	mW
T_{J}	Junction Temperature	150	$^{\circ}\text{C}$
T_{stg}	Storage Temperature	-55-150	$^{\circ}\text{C}$

TO-92

1. EMITTER
2. BASE
3. COLLECTOR

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

Parameter	Symbol	Test conditions	MIN	TYP	MAX	UNIT
Collector-base breakdown voltage	$V_{(\text{BR})\text{CBO}}$	$I_{\text{C}} = -100\mu\text{A}, I_{\text{E}} = 0$	-40			V
Collector-emitter breakdown voltage	$V_{(\text{BR})\text{CEO}}$	$I_{\text{C}} = -10\text{mA}, I_{\text{B}} = 0$	-20			V
Emitter-base breakdown voltage	$V_{(\text{BR})\text{EBO}}$	$I_{\text{E}} = -10\mu\text{A}, I_{\text{C}} = 0$	-5			V
Collector cut-off current	I_{CBO}	$V_{\text{CB}} = -25\text{V}, I_{\text{E}} = 0$			-0.2	μA
Emitter cut-off current	I_{EBO}	$V_{\text{EB}} = -3\text{V}, I_{\text{C}} = 0$			-0.2	μA
DC current gain	h_{FE}^*	$V_{\text{CE}} = -1\text{V}, I_{\text{C}} = -100\text{mA}$	40		400	
Collector-emitter saturation voltage	$V_{\text{CE(sat)}}^*$	$I_{\text{C}} = -500\text{mA}, I_{\text{B}} = -50\text{mA}$			-0.4	V
Base-emitter saturation voltage	$V_{\text{BE(sat)}}^*$	$I_{\text{C}} = -500\text{mA}, I_{\text{B}} = -50\text{mA}$			-1.3	V

* PULSE TEST

CLASSIFICATION OF h_{FE}

Rank	R	O	Y	G
Range	40-80	70-140	120-240	200-400

Typical Characteristics

KSA643

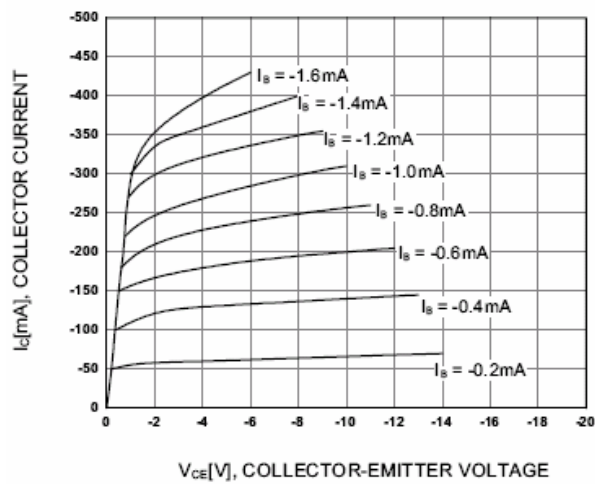


Figure 1. Static Characteristic

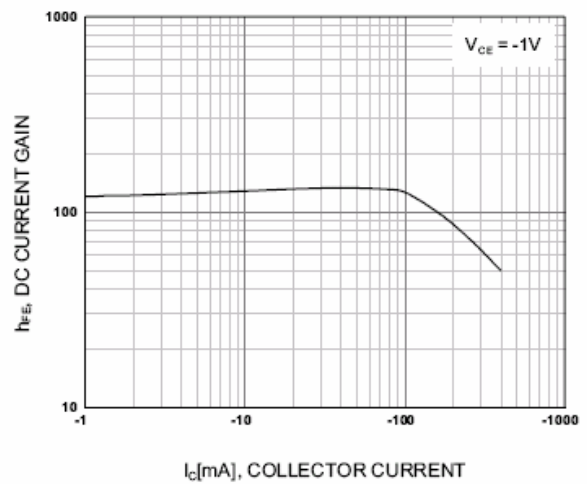


Figure 2. DC current Gain

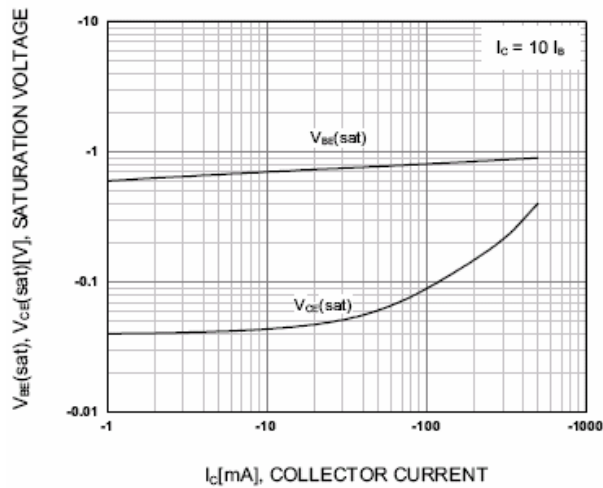


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

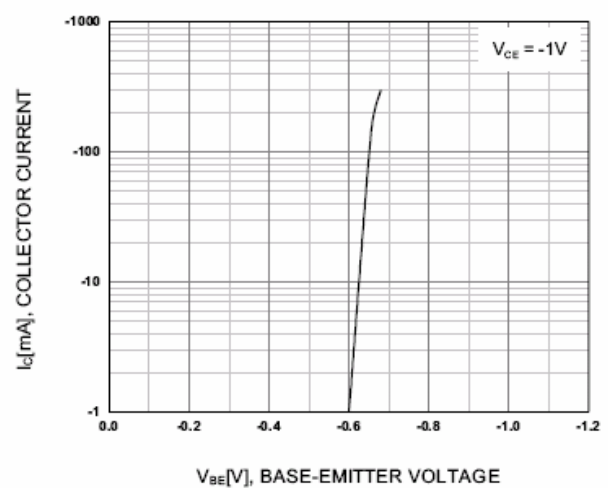


Figure 4. Base-Emitter On Voltage

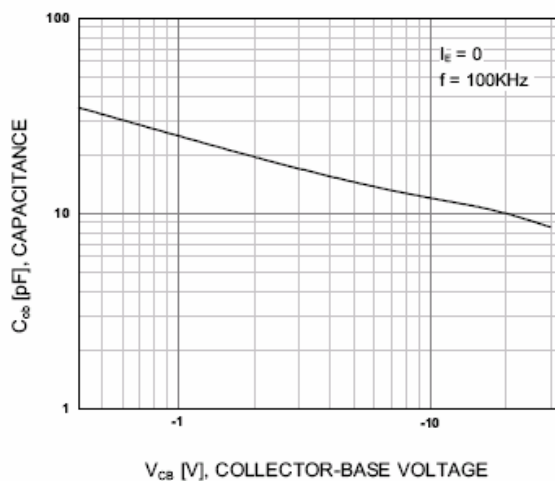


Figure 5. Collector Output Capacitance