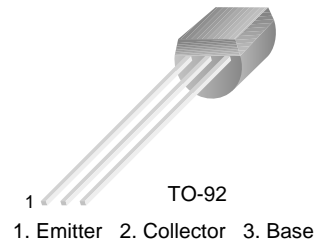


KSA1015

PNP Epitaxial Silicon Transistor

Features

- Low-Frequency Amplifier
- Collector-Base Voltage: $V_{CBO} = -50\text{ V}$
- Complement to KSC1815



Ordering Information

Part Number	Top Mark	Package	Packing Method
KSA1015GRTA	GRC&3	TO-92	AMMO
KSA1015YTA	YC&3	TO-92	AMMO

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Value	Units
V_{CBO}	Collector-Base Voltage	-50	V
V_{CEO}	Collector-Emitter Voltage	-50	V
V_{EBO}	Emitter-Base Voltage	-5	V
I_C	Collector Current	-150	mA
I_B	Base Current	-50	mA
P_C	Collector Power Dissipation	400	mW
T_J	Junction Temperature	125	$^\circ\text{C}$
T_{ST9}	Storage Temperature	-65 to 150	$^\circ\text{C}$

h_{FE} Classification

Classification	O	Y	GR
h_{FE1}	70 ~ 140	120 ~ 240	200 ~ 400

Electrical Characteristics

Values are at $T_A = 25^\circ\text{C}$ unless otherwise noted.

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
BV_{CBO}	Collector-Base Breakdown Voltage	$I_C = -100 \mu\text{A}, I_E = 0$	-50			V
BV_{CEO}	Collector-Emitter Breakdown Voltage	$I_C = -10 \text{ mA}, I_B = 0$	-50			V
BV_{EBO}	Emitter-Base Breakdown Voltage	$I_E = -10 \mu\text{A}, I_C = 0$	-5			V
I_{CBO}	Collector Cut-off Current	$V_{CB} = -50 \text{ V}, I_E = 0$			-0.1	μA
I_{EBO}	Emitter Cut-off Current	$V_{EB} = -5 \text{ V}, I_C = 0$			-0.1	μA
h_{FE1}	DC Current Gain	$V_{CE} = -6 \text{ V}, I_C = -2 \text{ mA}$	70		400	
h_{FE2}		$V_{CE} = -6 \text{ V}, I_C = -150 \text{ mA}$	25			
$V_{CE}(\text{sat})$	Collector-Emitter Saturation Voltage	$I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$		-0.1	-0.3	V
$V_{BE}(\text{sat})$	Base-Emitter Saturation Voltage	$I_C = -100 \text{ mA}, I_B = -10 \text{ mA}$			-1.1	V
f_T	Current Gain Bandwidth Product	$V_{CE} = -10 \text{ V}, I_C = -1 \text{ mA}$	80			MHz
C_{ob}	Output Capacitance	$V_{CB} = -10 \text{ V}, I_E = 0,$ $f = 1 \text{ MHz}$		4	7	pF
NF	Noise Figure	$V_{CE} = -6 \text{ V}, I_C = -0.1 \text{ mA},$ $f = 100 \text{ Hz}, R_G = 10 \text{ k}\Omega$		0.5	6	dB

Typical Performance Characteristics

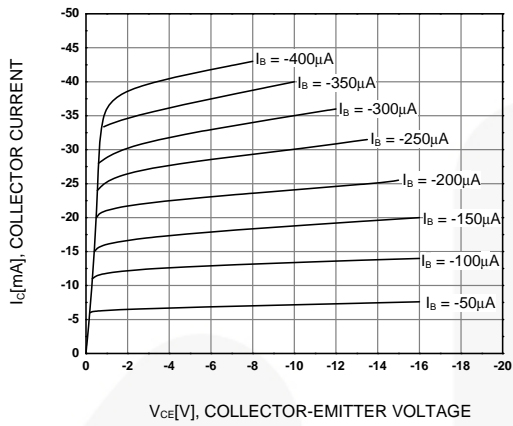


Figure 1. Static Characteristic

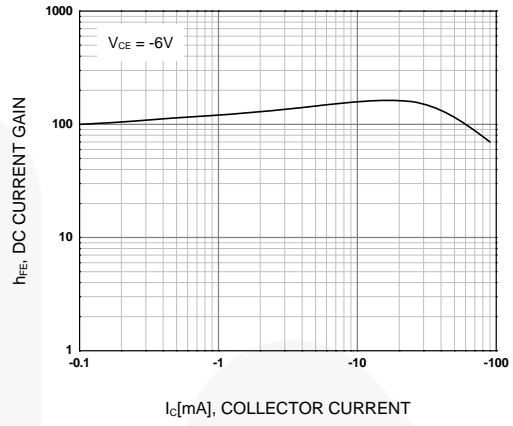
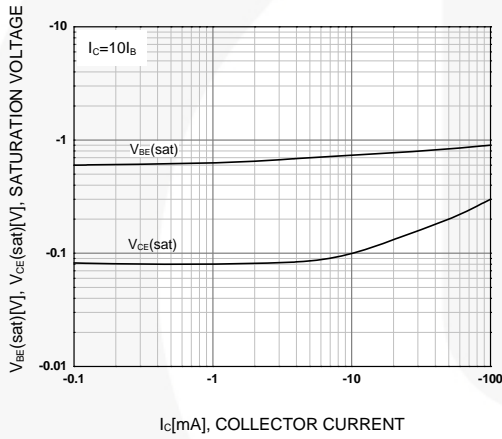


Figure 2. DC Current Gain



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

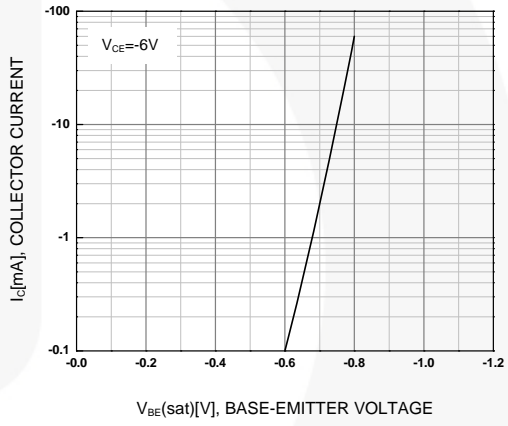


Figure 4. Base-Emitter On Voltage

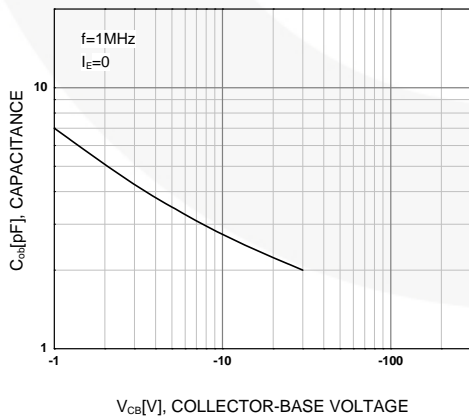


Figure 5. Collector Output Capacitance

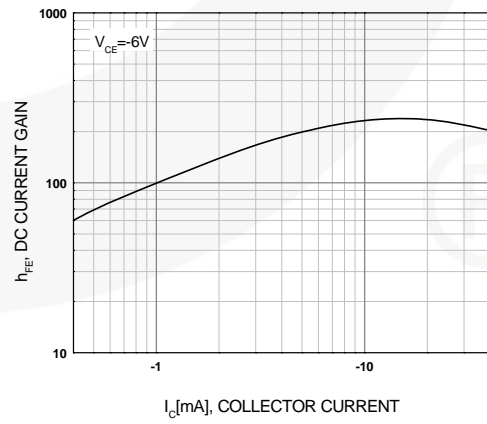


Figure 6. Current Gain Bandwidth Product

Physical Dimensions

TO-92 (AMMO Type)

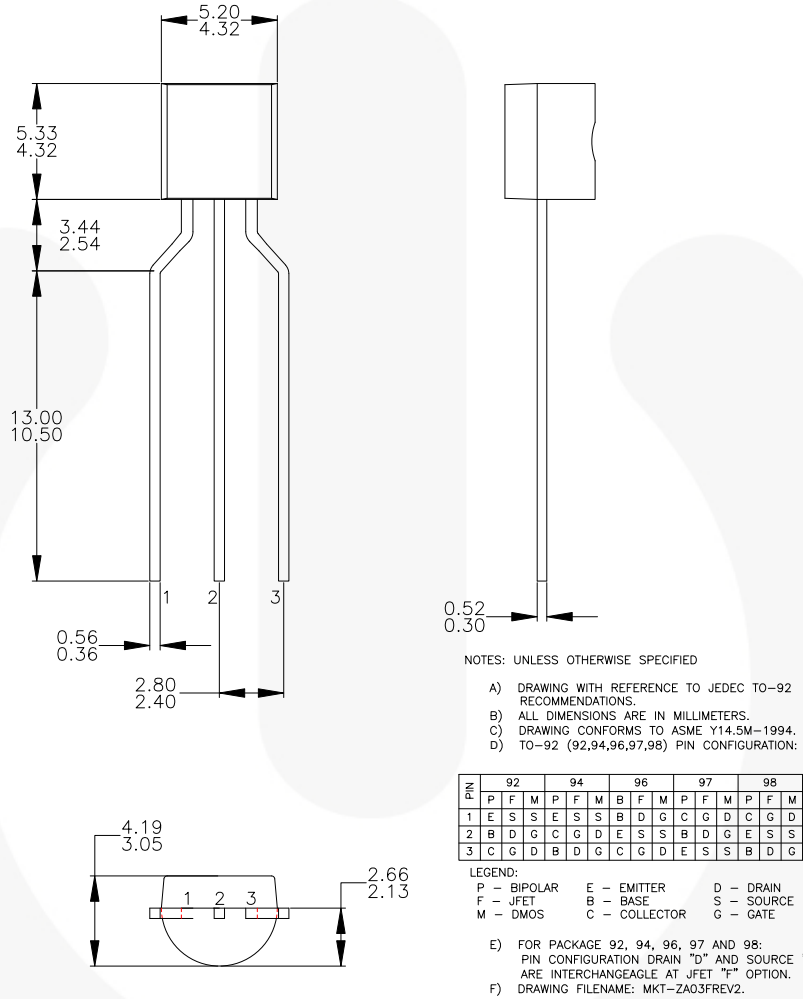


Figure 7. 3-LEAD, TO-92, MOLDED 0.200 IN LINE SPACING LD FORM (J61Z OPTION)

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