

PNP Epitaxial Silicon Transistor

KSA708

Low Frequency Amplifier & Medium Speed Switching

- Complement to KSC1008
- Collector–Base Voltage: $V_{CBO} = -80\text{ V}$
- Collector Power Dissipation: $P_C = 800\text{ mW}$
- Suffix “–C” means Center Collector
(1. Emitter 2. Collector 3. Base)

ABSOLUTE MAXIMUM RATINGS

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

| Symbol | Parameter | Ratings | Unit |
|-----------|-----------------------------|-------------|------------------|
| 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 | –700 | mA |
| P_C | Collector Power Dissipation | 800 | mW |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | –55 to +150 | $^\circ\text{C}$ |

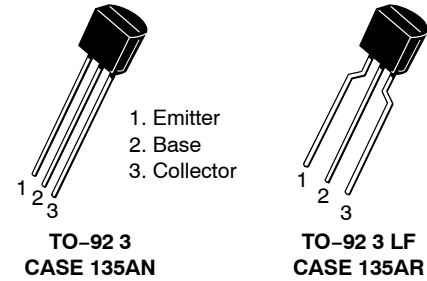
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted.)

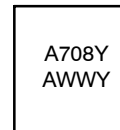
| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---------------|---------------------------------------|--|-----|------|------|---------------|
| BV_{CBO} | Collector–Base Breakdown Voltage | $I_C = -100\ \mu\text{A}, I_E = 0$ | –80 | – | – | V |
| BV_{CEO} | Collector–Emitter Breakdown Voltage | $I_C = -10\ \text{mA}, I_B = 0$ | –60 | – | – | V |
| BV_{EBO} | Emitter–Base Breakdown Voltage | $I_E = -100\ \mu\text{A}, I_C = 0$ | –8 | – | – | V |
| I_{CBO} | Collector Cut–off Current | $V_{CB} = -60\ \text{V}, I_E = 0$ | – | – | –0.1 | μA |
| I_{EBO} | Emitter Cut–off Current | $V_{EB} = -5\ \text{V}, I_C = 0$ | – | – | –0.1 | μA |
| h_{FE} | DC Current Gain* | $V_{CE} = -2\ \text{V}, I_C = -50\ \text{mA}$ | 120 | – | 240 | |
| $V_{CE(sat)}$ | Collector–Emitter Saturation Voltage* | $I_C = -500\ \text{mA}, I_B = -50\ \text{mA}$ | – | –0.3 | –0.7 | V |
| $V_{BE(sat)}$ | Base–Emitter Saturation Voltage* | $I_C = -500\ \text{mA}, I_B = -50\ \text{mA}$ | – | –0.9 | 1.1 | V |
| f_T | Current Gain Bandwidth Product | $V_{CE} = -10\ \text{V}, I_C = -50\ \text{mA}$ | – | 50 | – | MHz |
| C_{ob} | Output Capacitance | $V_{CB} = -10\ \text{V}, I_E = 0, f = 1\ \text{MHz}$ | – | 13 | – | pF |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

*Pulse Test: $PW \leq 350\ \mu\text{s}$, Duty cycle $\leq 2\%$.



MARKING DIAGRAM



A708Y = Specific Device Code
A = Assembly Site
WW = Work Week
Y = Year of Production

ORDERING INFORMATION

| Device | Package | Shipping |
|------------|----------------------|--------------------|
| KSA708YBU | TO–92 3 (Pb–Free) | 10000 Units / Bulk |
| KSA708CYTA | TO–92 3 LF (Pb–Free) | 2000 Units / FNFLD |
| KSA708YTA | TO–92 3 LF (Pb–Free) | 2000 Units / FNFLD |

TYPICAL CHARACTERISTICS

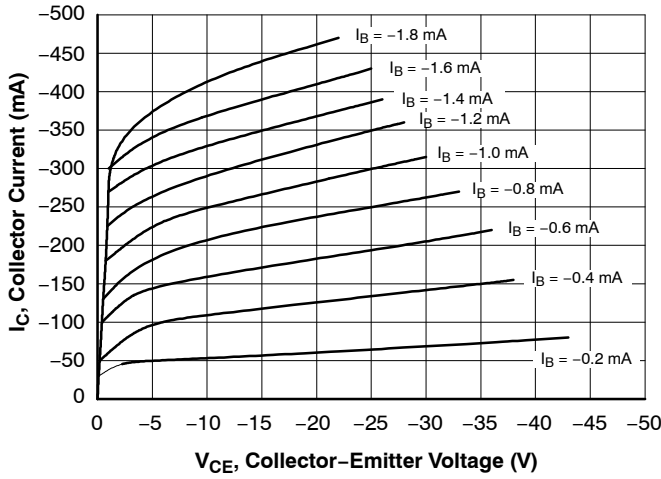


Figure 1. Static Characteristic

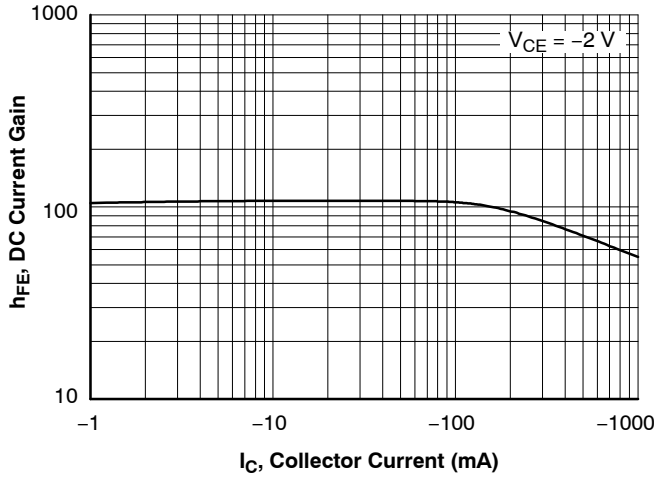


Figure 2. DC Current Gain

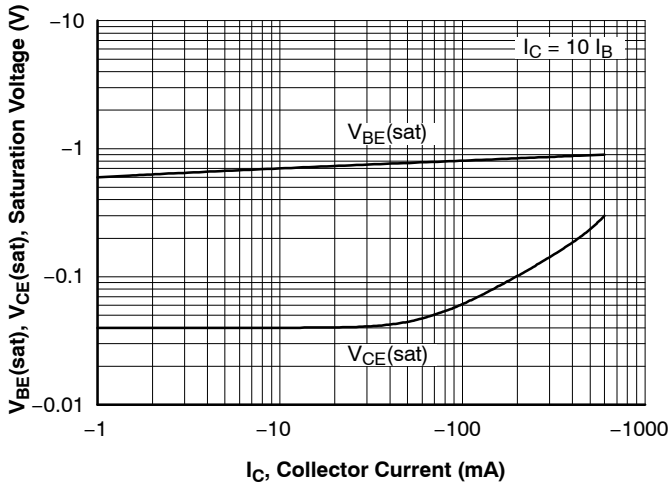


Figure 3. Base-Emitter Saturation Voltage
Collector-Emitter Saturation Voltage

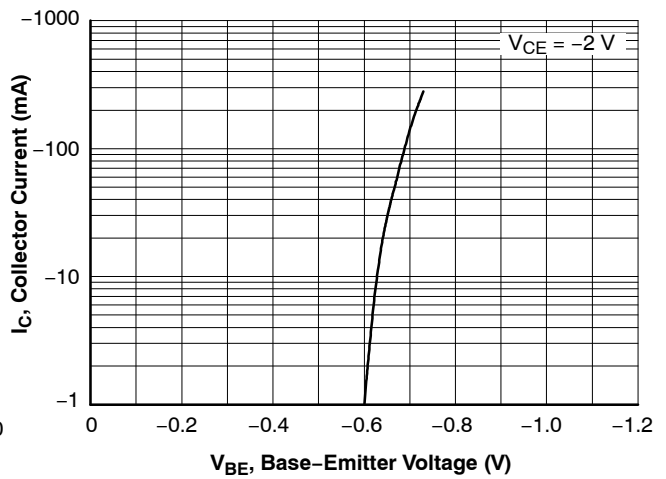


Figure 4. Base-Emitter On Voltage

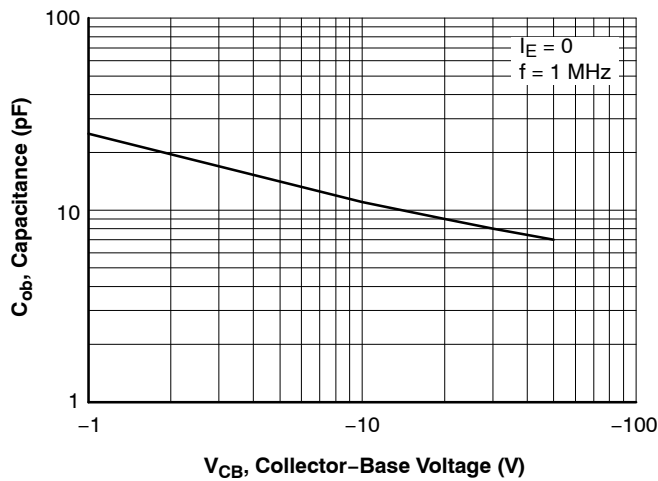
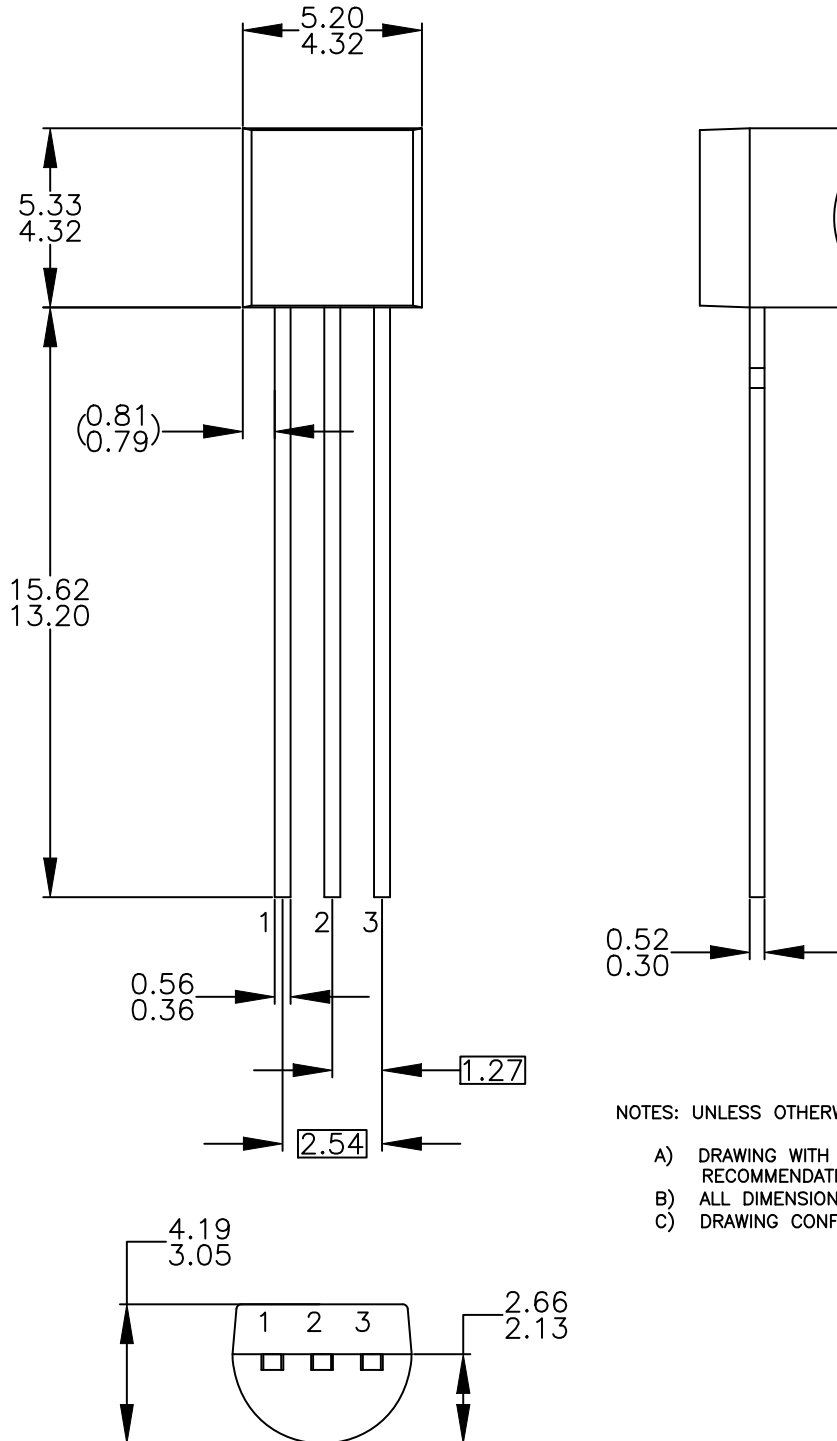


Figure 5. Collector Output Capacitance

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

TO-92 3 4.825x4.76
CASE 135AN
ISSUE O

DATE 31 JUL 2016



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