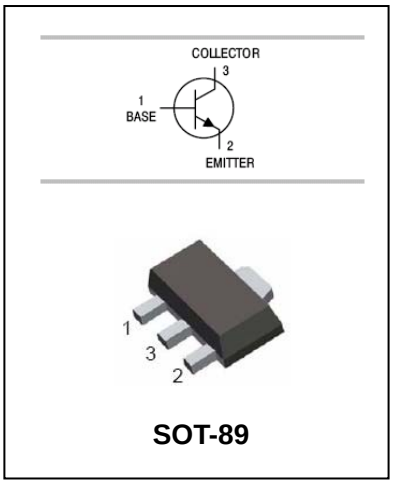
# Low $V_{CE(sat)}$ transistor(80V,0.7A) **2SD2908**

## FEATURES

- Low $V_{CE(sat)}$.
- Excellent DC current gain characteristics.
- Complements the 2SB1386

Lead-free




**SOT-89**

## ORDERING INFORMATION

| Type No. | Marking | Package Code |
|---|---|---|
| 2SD2098 | AHQ/AHR | SOT-89 |

## MAXIMUM RATING @ Ta=25℃ unless otherwise specified

| **Symbol** | **Parameter** | **Value** | **Units** |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 50 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 20 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 6 | V |
| $I_C$ | Collector Current -Continuous | 5 | A |
| $P_C$ | Collector Dissipation | 500 | mW |
| $T_j$,$T_{stg}$ | Junction and Storage Temperature | -55~150 | ℃ |

# Low $V_{CE(sat)}$ transistor(80V,0.7A) **2SD2908**

## ELECTRICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

| Parameter | Symbol | Test conditions | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|---|
| Collector-base breakdown voltage | $V_{(BR)CBO}$ | $I_C$=50μA,$I_E$=0 | 50 | | | V |
| Collector-emitter breakdown voltage | $V_{(BR)CEO}$ | $I_C$=1mA,$I_B$=0 | 20 | | | V |
| Emitter-base breakdown voltage | $V_{(BR)EBO}$ | $I_E$=50μA,$I_C$=0 | 6 | | | V |
| Collector cut-off current | $I_{CBO}$ | $V_{CB}$=40V,$I_E$=0 | | | 0.5 | μA |
| Emitter cut-off current | $I_{EBO}$ | $V_{EB}$=5V,$I_C$=0 | | | 0.5 | μA |
| DC current gain | $h_{FE}$ | $V_{CE}$=2V,$I_C$=0.5A | 120 | | 390 | |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | $I_C$=4A, $I_B$=0.1A | | 0.25 | 1.0 | V |
| Transition frequency | $f_T$ | $V_{CE}$=6V,$I_C$=50mA, f=100MHz | | 150 | | MHz |
| Collector output capacitance | $C_{ob}$ | $V_{CB}$=20V,$I_E$=0,f=1MHz | | 30 | | pF |

## CLASSIFICATION OF $h_{FE}$

| Rank | Q | R |
|---|---|---|
| Range | 120-270 | 180-390 |
| MARKING | AHQ | AHR |

## TYPICAL CHARACTERISTICS @ Ta=25℃ unless otherwise specified

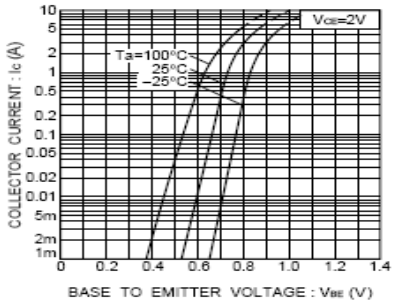



Fig.1 Grounded emitter propagation characteristics

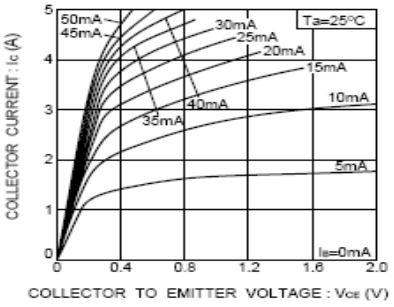



Fig.2 Grounded emitter output characteristics

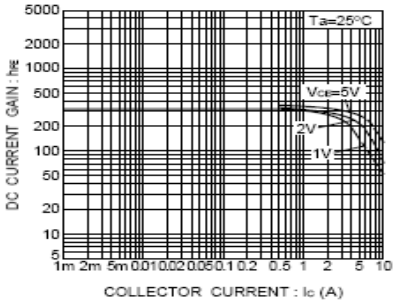



Fig.3 DC current gain vs. collector current ( I )

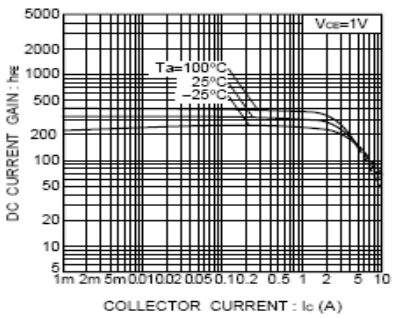



Fig.4 DC current gain vs. collector current ( II )

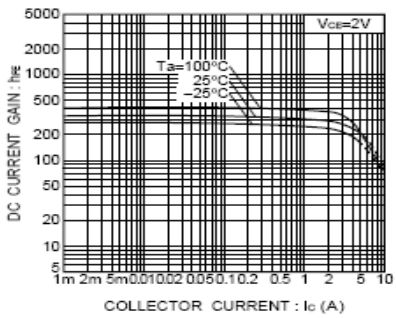



Fig.5 DC current gain vs. collector current ( III )

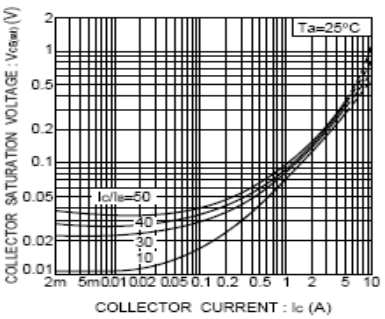
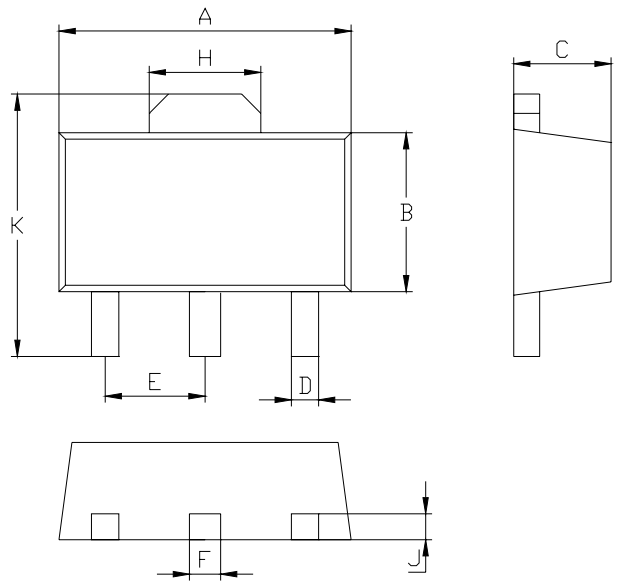



Fig.6 Collector-emitter saturation voltage vs. collector current ( I )

# Low $V_{CE(sat)}$ transistor(80V,0.7A) **2SD2908**

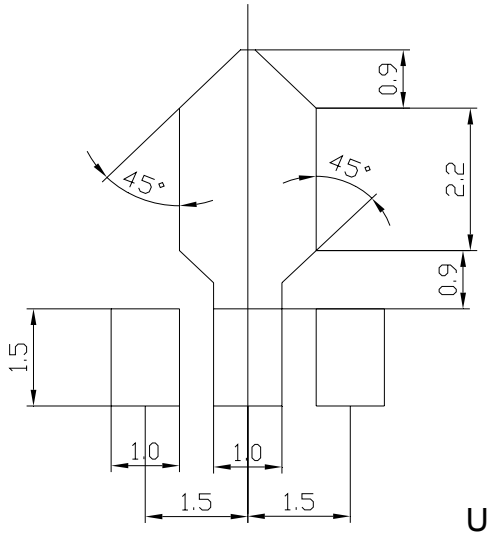
## PACKAGE OUTLINE

Plastic surface mounted package SOT-89




| SOT-89 | | |
|---|---|---|
| Dim | Min | Max |
| A | 4.5 | 4.7 |
| B | 2.3 | 2.7 |
| C | 1.5Typical | |
| D | 0.35 | 0.55 |
| E | 1.4 | 1.6 |
| F | 0.4 | 0.6 |
| H | 1.55 | 1.75 |
| J | 0.4Typical | |
| K | 4.15 | 4.25 |
| All Dimensions in mm | | |

## SOLDERING FOOTPRINT




Unit:mm

## PACKAGE INFORMATION

| Device | Package | Shipping |
|---|---|---|
| 2SD2098 | SOT-89 | 1000/Tape&Reel |