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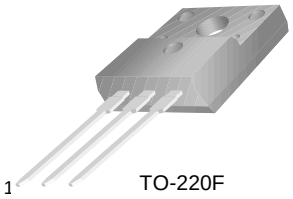
# KSC3296

## Power Amplifier Applications

- Complement to KSA1304



1 TO-220F

1.Base 2.Collector 3.Emitter

## NPN Epitaxial Silicon Transistor

### Absolute Maximum Ratings $T_C$=25°C unless otherwise noted

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage | 150 | V |
| $V_{CEO}$ | Collector-Emitter Voltage | 150 | V |
| $V_{EBO}$ | Emitter-Base Voltage | 5 | V |
| $I_C$ | Collector Current(DC) | 1.5 | A |
| $I_B$ | Base Current | 0.5 | A |
| $P_C$ | Collector Dissipation ($T_C$=25°C) | 20 | W |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | - 55 ~ 150 | °C |

### Electrical Characteristics $T_C$=25°C unless otherwise noted

| Symbol | Parameter | Test Condition | Min. | Typ. | Max. | Units |
|---|---|---|---|---|---|---|
| $I_{CBO}$ | Collector Cut-off Current | $V_{CB}$ = 120V, $I_E$ = 0 | | | 10 | μA |
| $I_{EBO}$ | Emitter Cut-off Current | $V_{EB}$ = 5V, $I_C$ = 0 | | | 10 | μA |
| $h_{FE}$ | DC Current Gain | $V_{CE}$ = 10V, $I_C$ = 500mA | 40 | 75 | 140 | |
| $V_{CE}$(sat) | Collector-Emitter Saturation Voltage | $I_C$ = 500mA, $I_B$ = 50mA | | | 1.5 | V |
| $V_{BE}$(on) | Base-Emitter ON Voltage | $V_{CE}$ = 10V, $I_C$ = 500mA | 0.65 | 0.75 | 0.85 | V |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$ = 10V, $I_C$ = 500mA | | 4 | | MHz |
| $C_{ob}$ | Output Capacitance | $V_{CB}$ = 10V, f = 1MHz | | 35 | | pF |

# Typical Characteristics

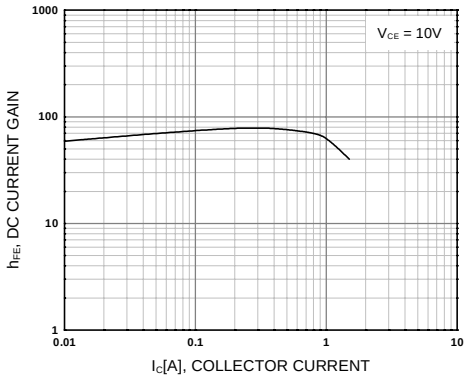



**Figure 1. DC current Gain**

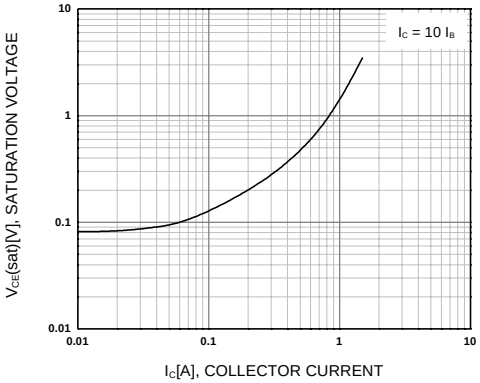



**Figure 2. Collector-Emitter Saturation Voltage**

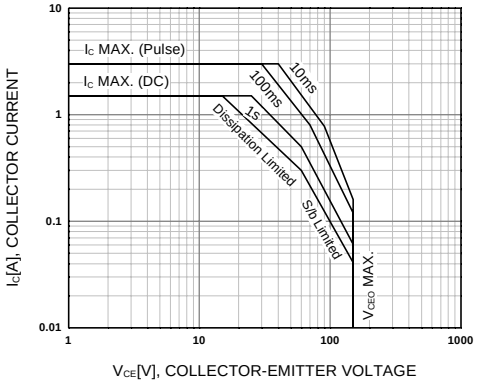



**Figure 3. Safe Operating Area**

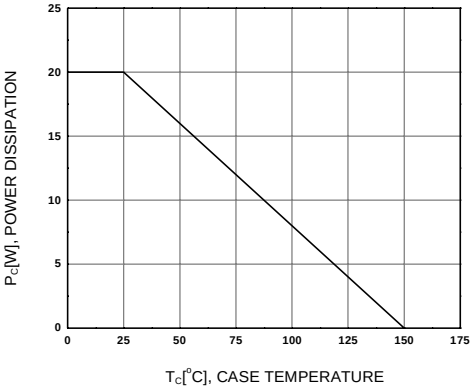
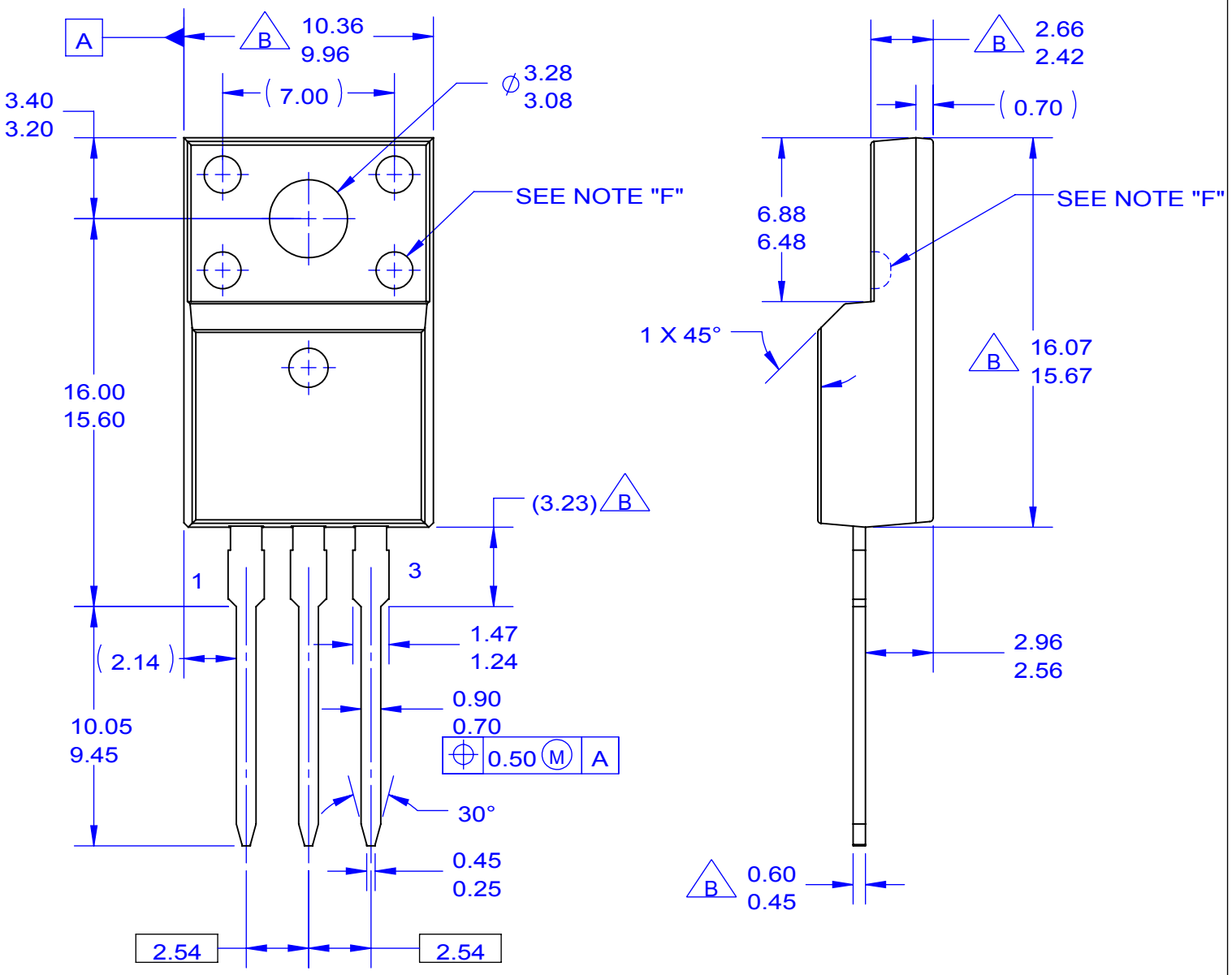
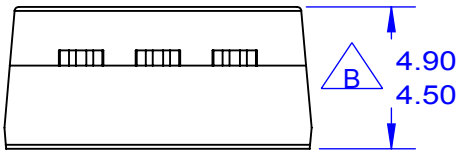



**Figure 4. Power Derating**

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NOTES:

A. EXCEPT WHERE NOTED CONFORMS TO EIAJ SC91A.
B DOES NOT COMPLY EIAJ STD. VALUE.
C. ALL DIMENSIONS ARE IN MILLIMETERS.
D. DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR PROTRUSIONS.
E. DIMENSION AND TOLERANCE AS PER ASME Y14.5-1994.
F. OPTION 1 - WITH SUPPORT PIN HOLE.
OPTION 2 - NO SUPPORT PIN HOLE.
G. DRAWING FILE NAME: TO220M03REV5

## PUBLICATION ORDERING INFORMATION

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