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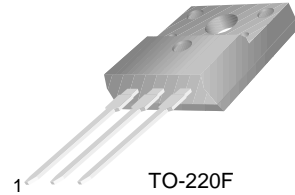


KSC3296

KSC3296

Power Amplifier Applications

- Complement to KSA1304



TO-220F
1.Base 2.Collector 3.Emitter

NPN Epitaxial Silicon Transistor

Absolute Maximum Ratings $T_C=25^\circ\text{C}$ 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 ($T_C=25^\circ\text{C}$) | 20 | W |
| T_J | Junction Temperature | 150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature | - 55 ~ 150 | $^\circ\text{C}$ |

Electrical Characteristics $T_C=25^\circ\text{C}$ unless otherwise noted

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

Typical Characteristics

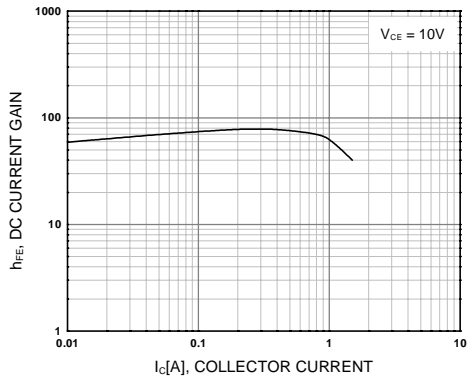


Figure 1. DC current Gain

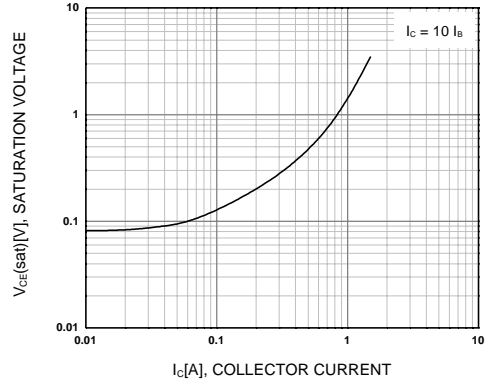


Figure 2. Collector-Emitter Saturation Voltage

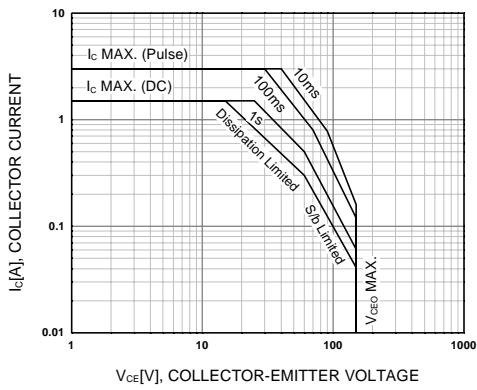


Figure 3. Safe Operating Area

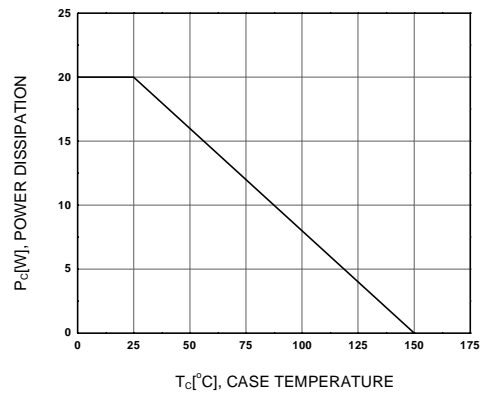
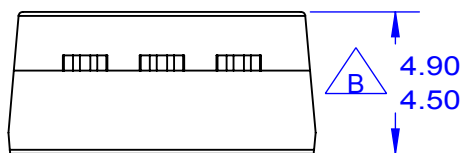
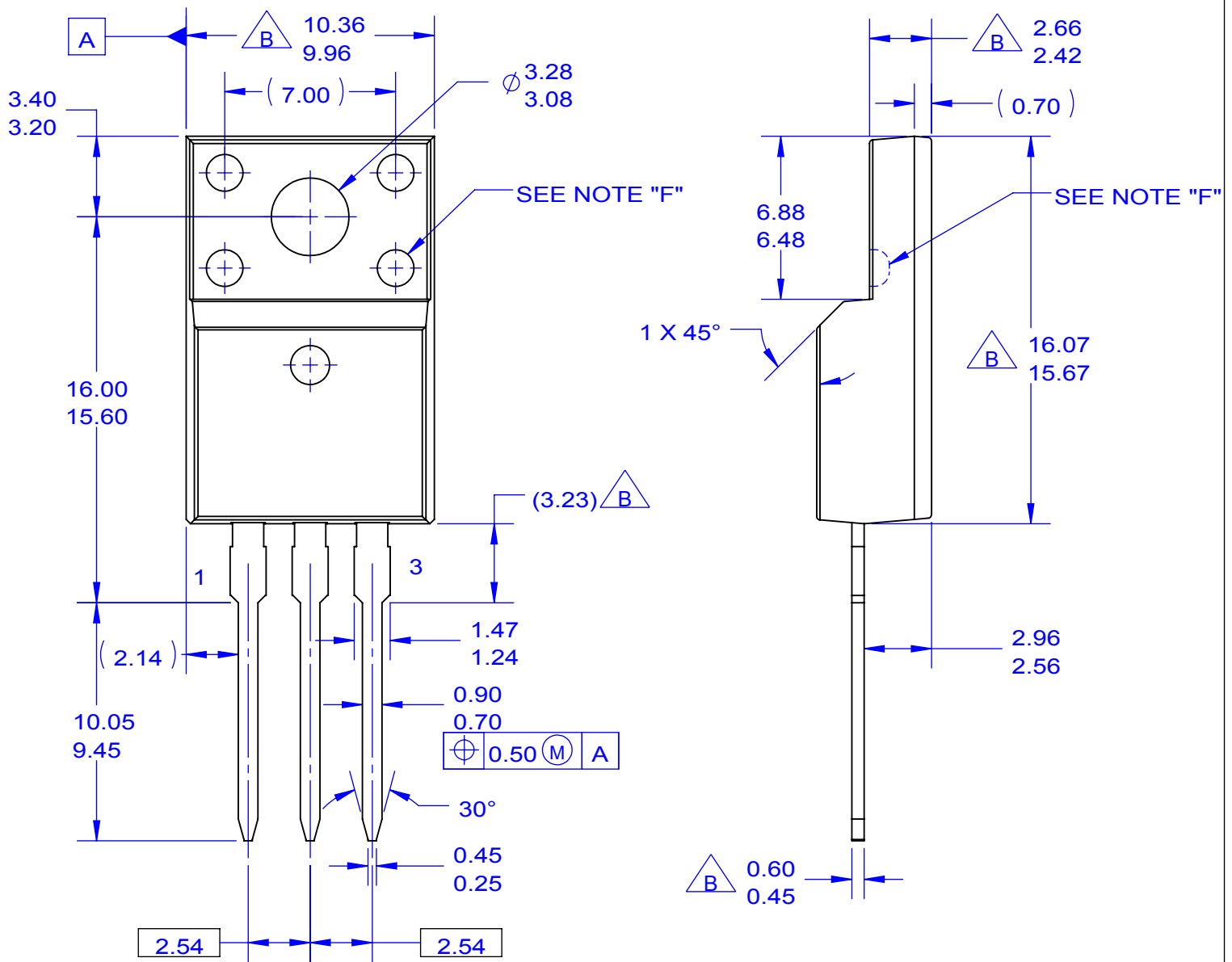


Figure 4. Power Derating



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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

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