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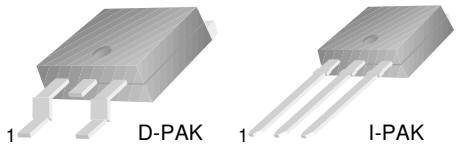
# MJD32/32C

## General Purpose Amplifier Low Speed Switching Applications
## D-PAK for Surface Mount Applications

- Load Formed for Surface Mount Application (No Suffix)
- Straight Lead (I-PAK, "- I" Suffix)
- Electrically Similar to Popular TIP32 and TIP32C




1.Base 2.Collector 3.Emitter

# PNP Epitaxial Silicon Transistor

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

| Symbol | Parameter | Value | Units |
|---|---|---|---|
| $V_{CBO}$ | Collector-Base Voltage<br>: MJD32<br>: MJD32C | <br>- 40<br>- 100 | <br>V<br>V |
| $V_{CEO}$ | Collector-Emitter Voltage<br>: MJD32<br>: MJD32C | <br>- 40<br>- 100 | <br>V<br>V |
| $V_{EBO}$ | Emitter-Base Voltage | - 5 | V |
| $I_C$ | Collector Current (DC) | - 3 | A |
| $I_{CP}$ | Collector Current (Pulse) | - 5 | A |
| $I_B$ | Base Current | - 1 | A |
| $P_C$ | Collector Dissipation ($T_C$=25°C) | 15 | W |
| | Collector Dissipation ($T_a$=25°C) | 1.56 | W |
| $T_J$ | Junction Temperature | 150 | °C |
| $T_{STG}$ | Storage Temperature | - 65 ~ 150 | °C |

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

| Symbol | Parameter | Test Condition | Min. | Max. | Units |
|---|---|---|---|---|---|
| $V_{CEO}$(sus) | * Collector-Emitter Sustaining Voltage<br>: MJD32<br>: MJD32C | <br>$I_C$ = - 30mA, $I_B$ = 0 | <br>-40<br>-100 | | <br>V<br>V |
| $I_{CEO}$ | Collector Cut-off Current<br>: MJD32<br>: MJD32C | <br>$V_{CE}$ = - 40V, $I_B$ = 0<br>$V_{CE}$ = - 60V, $I_B$ = 0 | | <br>-50<br>-50 | <br>μA<br>μA |
| $I_{CES}$ | Collector Cut-off Current<br>: MJD32<br>: MJD32C | <br>$V_{CE}$ = - 40V, $V_{BE}$ = 0<br>$V_{CE}$ = - 100V, $V_{BE}$ = 0 | | <br>-20<br>-20 | <br>μA<br>μA |
| $I_{EBO}$ | Emitter Cut-off Current | $V_{BE}$ = - 5V, $I_C$ = 0 | | -1 | mA |
| $h_{FE}$ | * DC Current Gain | $V_{CE}$ = - 4V, $I_C$ = - 1A<br>$V_{CE}$ = - 4V, $I_C$ = - 3A | 25<br>10 | <br>50 | |
| $V_{CE}$(sat) | * Collector-Emitter Saturation Voltage | $I_C$ = - 3, $I_B$ = - 375mA | | -1.2 | V |
| $V_{BE}$(on) | * Base-Emitter ON Voltage | $V_{CE}$ = - 4A, $I_C$ = - 3A | | -1.8 | V |
| $f_T$ | Current Gain Bandwidth Product | $V_{CE}$ = -10V, $I_C$ = - 500mA | 3 | | MHz |

* Pulse Test: PW≤300μs, Duty Cycle≤2%

# Typical Characteristics

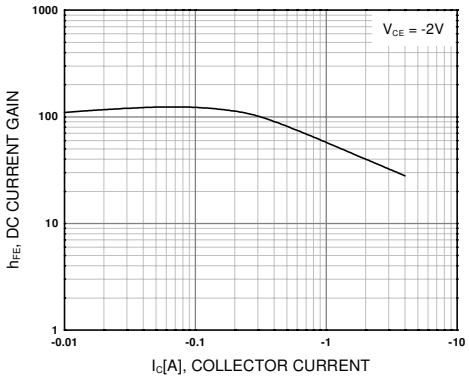



**Figure 1. DC current Gain**

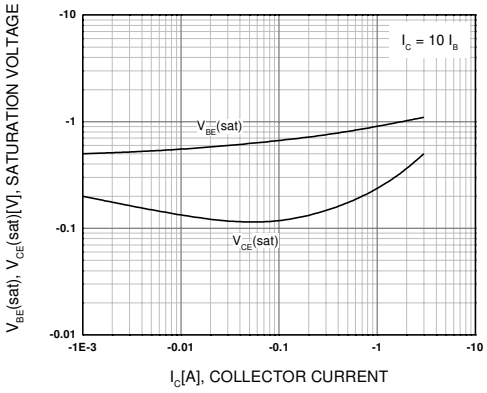



**Figure 2. Base-Emitter Saturation Voltage Collector-Emitter Saturation Voltage**

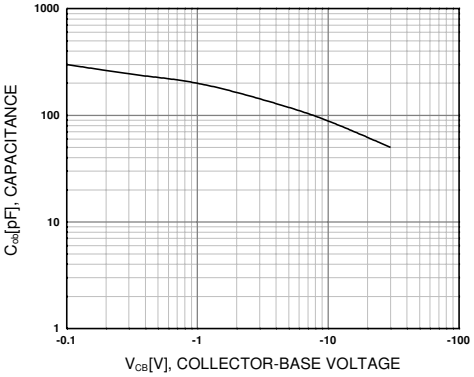



**Figure 3. Collector Capacitance**

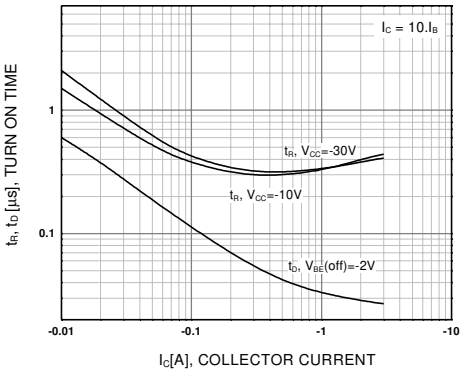



**Figure 4. Turn On Time**

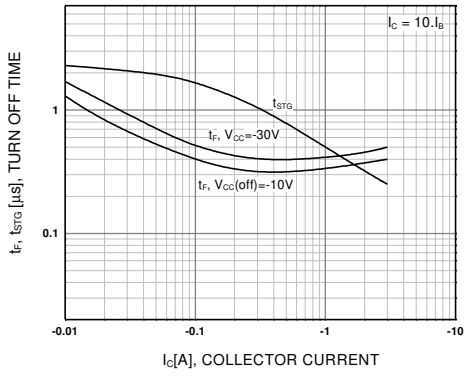



**Figure 5. Turn Off Time**

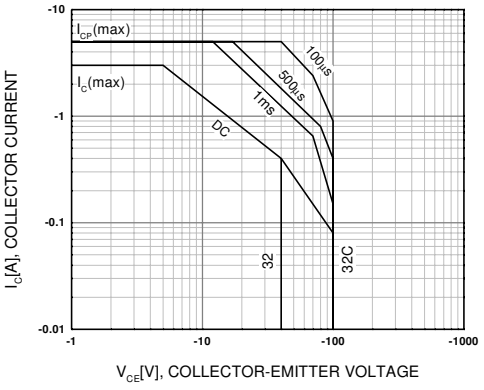



**Figure 6. Safe Operating Area**

## Typical Characteristics (Continued)

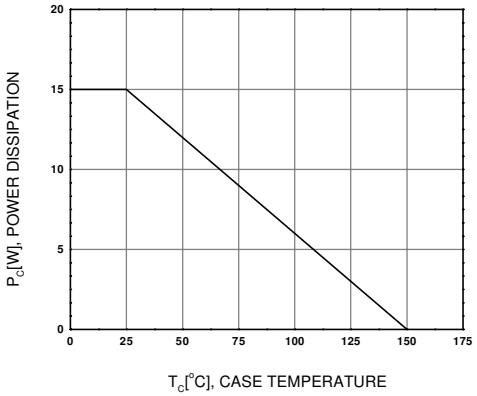
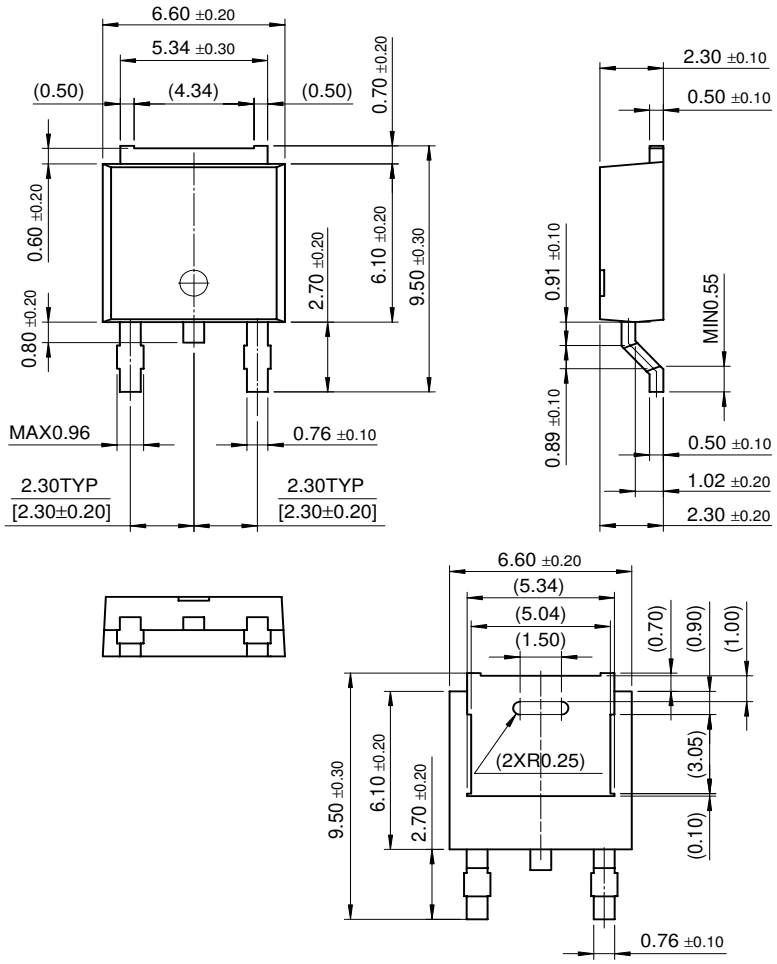



**Figure 7. Power Derating**

## Package Demensions

# D-PAK




Dimensions in Millimeters

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