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Manufacturers of World Class Discrete Semiconductors

# BU406
# BU407
# BU408

## NPN SILICON POWER TRANSISTOR

JEDEC TO-220 CASE

## DESCRIPTION

The CENTRAL SEMICONDUCTOR BU406 Series types are Silicon NPN High Voltage Power Transistors designed for fast swtiching, horizontal deflection output stages of monitors.

## MAXIMUM RATINGS ($T_C$=25°C unless otherwise noted)

| | SYMBOL | BU406 | BU407 | BU408 | UNIT |
|---|---|---|---|---|---|
| Collector Base Voltage | $V_{CBO}$ | 400 | 330 | 400 | V |
| Collector Emitter Voltage | $V_{CES}$ | 400 | 330 | 400 | V |
| Collector Emitter Voltage | $V_{CEO}$ | 200 | 150 | 200 | V |
| Emitter Base Voltage | $V_{EBO}$ | | 6.0 | | V |
| Collector Current | $I_C$ | | 7.0 | | A |
| Collector Current (PEAK) | $I_{CM}$ | | 15 | | A |
| Base Current | $I_B$ | | 4.0 | | A |
| Power Dissipation | $P_D$ | | 60 | | W |
| Operating and Storage Junction Temperature | $T_J$,$T_{STG}$ | | -65 TO +150 | | °C |
| Thermal Resistance | ΘJC | | 2.08 | | °C/W |
| Thermal Resistance | ΘJA | | 70 | | °C/W |

## ELECTRICAL CHARACTERISTICS ($T_C$=25°C unless otherwise noted)

| | | BU406 | | BU407 | | BU408 | |
|---|---|---|---|---|---|---|---|
| SYMBOL | TEST CONDITIONS | MIN | MAX | MIN | MAX | MIN | MAX | UNIT |
| $I_{CES}$ | $V_{CE}$=Rated $V_{CES}$ | | 5.0 | | 5.0 | | 5.0 | mA |
| $I_{CES}$ | $V_{CE}$=250V (406, 408), $V_{CE}$=200V(407) | | 0.1 | | 0.1 | | 0.1 | mA |
| $I_{CES}$ | $V_{CE}$=250V (406, 408), $V_{CE}$=200V(407), $T_C$=150°C | | 1.0 | | 1.0 | | 1.0 | mA |
| $I_{EBO}$ | $V_{EB}$=6.0V | | 1.0 | | 1.0 | | 1.0 | mA |
| $V_{CE(S)}$ | $I_C$=5.0A, $I_B$=0.5A | | 1.0 | | 1.0 | | - | V |
| $V_{CE(S)}$ | $I_C$=6.0A, $I_B$=1.2A | | - | | - | | 1.0 | V |
| $V_{BE(S)}$ | $I_C$=5.0A, $I_B$=0.5A | | 1.2 | | 1.2 | | - | V |
| $V_{BE(S)}$ | $I_C$=6.0A, $I_B$=1.2A | | - | | - | | 1.5 | V |
| $f_T$ | $V_{CE}$=10V, $I_C$=0.5A, f=1.0MHz | 10 | | 10 | | 10 | | MHz |
| $t_f$ | $V_{CC}$=40V, $I_C$=5.0A, $I_B$=0.5A | | 0.75 | | 0.75 | | - | µs |
| $t_f$ | $V_{CC}$=40V, $I_C$=6.0A, $I_B$=1.2A | | - | | - | | 0.4 | µs |
| Cob | $V_{CB}$=10V, $I_E$=0, f=1.0MHz | 80TYP | | 80TYP | | 80TYP | | pF |
| $I_{s/b}$ | $V_{CE}$=10V, t=1.0 sec | 6.0TYP | | 6.0TYP | | 6.0TYP | | A |