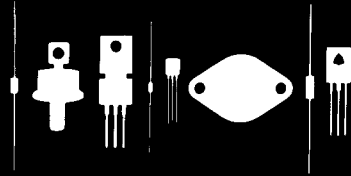


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145 Adams Avenue
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2N3442

Single Diffused (Hometaxial)
NPN Silicon Power Transistor

JEDEC TO 3 CASE

DESCRIPTION

The CENTRAL SEMICONDUCTOR 2N3442 is a Silicon NPN Single Diffused (Hometaxial) High Voltage Power Transistor designed for high voltage, high power amplifier applications.

MAXIMUM RATINGS ($T_C=25^{\circ}\text{C}$)

| | <u>SYMBOL</u> | | <u>UNIT</u> |
|---|----------------|-------------|-----------------------------|
| Collector-Base Voltage | V_{CB0} | 160 | V |
| Collector-Emitter Voltage | V_{CEV} | 160 | V |
| Collector-Emitter Voltage | V_{CEO} | 140 | V |
| Emitter-Base Voltage | V_{EBO} | 7.0 | V |
| Collector Current | I_C | 10 | A |
| Collector Current (PEAK) | I_{CM} | 15 | A |
| Base Current | I_B | 7.0 | A |
| Power Dissipation | P_D | 117 | W |
| Operating and Storage Junction Temperature | T_J, T_{stg} | -65 TO +200 | $^{\circ}\text{C}$ |
| Thermal Resistance | θ_{JC} | 1.5 | $^{\circ}\text{C}/\text{W}$ |

ELECTRICAL CHARACTERISTICS ($T_C=25^{\circ}\text{C}$)

| <u>SYMBOL</u> | <u>TEST CONDITIONS</u> | <u>MIN</u> | <u>MAX</u> | <u>UNIT</u> |
|---------------|--|------------|------------|-------------|
| I_{CEV} | $V_{CE}=140\text{V}, V_{BE}=1.5\text{V}$ | | 5.0 | mA |
| I_{CEO} | $V_{CE}=140\text{V}$ | | 200 | mA |
| I_{EBO} | $V_{BE}=7.0\text{V}$ | | 5.0 | mA |
| BV_{CEO} | $I_C=0.2\text{A}$ | 140 | | V |
| $V_{CE(SAT)}$ | $I_C=10\text{A}, I_B=2.0\text{A}$ | | 5.0 | V |
| $V_{BE(ON)}$ | $V_{CE}=4.0\text{V}, I_C=10\text{A}$ | | 5.7 | V |
| h_{FE} | $V_{CE}=4.0\text{V}, I_C=3.0\text{A}$ | 20 | 70 | |
| h_{FE} | $V_{CE}=4.0\text{V}, I_C=10\text{A}$ | 7.5 | | |
| h_{fe} | $V_{CE}=4.0\text{V}, I_C=2.0\text{A}, f=1.0\text{kHz}$ | 12 | 72 | |
| f_T | $V_{CE}=4.0\text{V}, I_C=2.0\text{A}, f=40\text{kHz}$ | 80 | | kHz |

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