

2N5447 THROUGH 2N5450

COMPLEMENTARY SILICON GENERAL PURPOSE AF TRANSISTORS

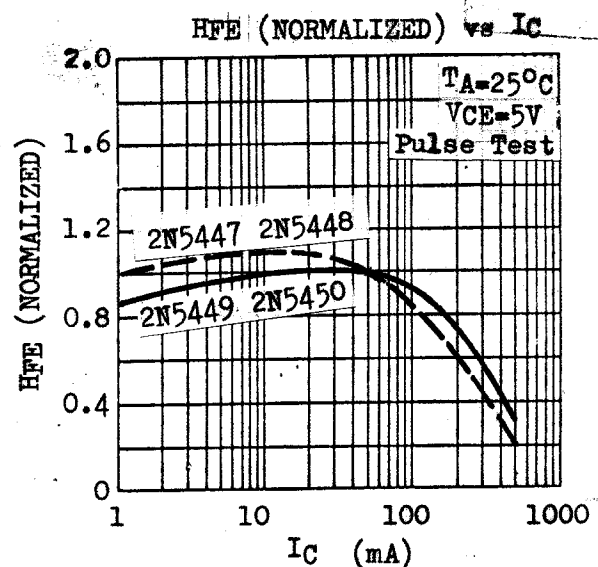
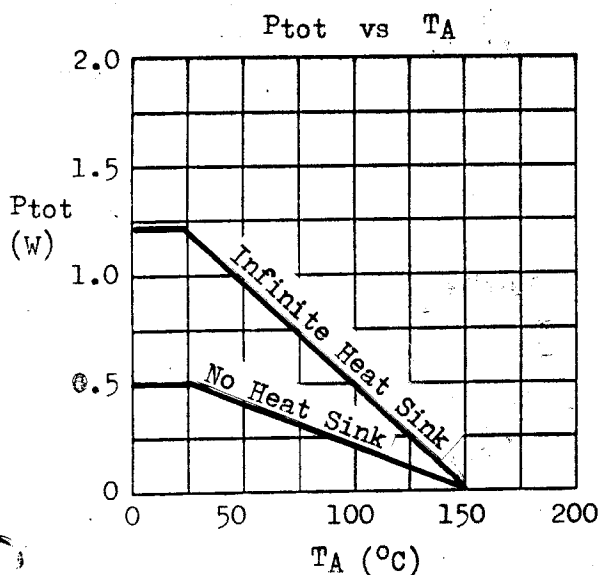
THE 2N5447, 2N5448, 2N5449, 2N5450 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR GENERAL PURPOSE MEDIUM POWER AMPLIFIER APPLICATIONS. THE 2N5447, 2N5448 ARE PNP AND ARE COMPLEMENTARY TO THE NPN 2N5449, 2N5450 RESPECTIVELY.

CASE TO-92F



| ABSOLUTE MAXIMUM RATINGS <small>For p-n-p devices, voltage and current values are negative.</small> | | 2N5447(PNP) | 2N5448(PNP) | 2N5449(NPN) 2N5450(NPN) |
|---|----------------|-------------|--------------|----------------------------|
| Collector-Base Voltage | V_{CB0} | 40V | 50V | 50V |
| Collector-Emitter Voltage | V_{CE0} | 25V | 30V | 30V |
| Emitter-Base Voltage | V_{EB0} | 5V | 5V | 5V |
| Collector Current | I_C | 0.2A | 0.2A | 0.8A |
| Collector Peak Current ($t \leq 10\text{ms}$) | I_{CM} | 0.6A | 0.6A | |
| Total Power Dissipation ($T_C \leq 25^\circ\text{C}$) | P_{tot} | | 1.2W | |
| | | | 500mW ** | |
| | | | -55 to 150°C | |
| Operating Junction & Storage Temperature | T_j, T_{stg} | | | |

** 360mW in JEDEC registration.



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ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | MIN | TYP | MAX | UNIT | TEST CONDITIONS |
|--|-----------------|-----------------------|-----|--------------------------|-------------|--|
| Collector-Base Breakdown Voltage 2N5447 2N5448, 2N5449, 2N5450 | BV_{CBO} | 40 50 | | | V V | $I_C=0.1\text{mA}$ $I_E=0$ |
| Collector-Emitter Breakdown Voltage 2N5447 2N5448, 2N5449, 2N5450 | $LV_{CEO} *$ | 25 30 | | | V V | $I_C=10\text{mA}$ $I_B=0$ |
| Emitter-Base Breakdown Voltage | BV_{EBO} | 5 | | | V | $I_E=0.1\text{mA}$ $I_C=0$ |
| Collector Cutoff Current | I_{CBO} | | | 100 | nA | $V_{CB}=20\text{V}$ $I_E=0$ |
| Emitter Cutoff Current | I_{EBO} | | | 100 | nA | $V_{EB}=3\text{V}$ $I_C=0$ |
| Collector-Emitter Saturation Voltage 2N5447, 2N5448 2N5449 2N5450 | $V_{CE(sat)} *$ | | | 0.25 0.6 0.8 | V V V | $I_C=50\text{mA}$ $I_B=5\text{mA}$ $I_C=100\text{mA}$ $I_B=5\text{mA}$ $I_C=100\text{mA}$ $I_B=5\text{mA}$ |
| Base-Emitter Voltage 2N5447, 2N5448 2N5449, 2N5450 | $V_{BE} *$ | 0.6 0.5 | | 1.0 1.0 | V V | $I_C=50\text{mA}$ $V_{CE}=5\text{V}$ $I_C=100\text{mA}$ $V_{CE}=2\text{V}$ |
| D.C. Current Gain 2N5447 2N5448 2N5449 2N5450 | $H_{FE} *$ | 60 30 100 50 | | 300 150 300 150 | | $I_C=50\text{mA}$ $V_{CE}=5\text{V}$ $I_C=50\text{mA}$ $V_{CE}=5\text{V}$ $I_C=50\text{mA}$ $V_{CE}=2\text{V}$ $I_C=50\text{mA}$ $V_{CE}=2\text{V}$ |
| Current Gain-Bandwidth Product 2N5447, 2N5448 2N5449, 2N5450 | f_T | 100 100 | | | MHz MHz | $I_C=50\text{mA}$ $V_{CE}=5\text{V}$ $I_C=50\text{mA}$ $V_{CE}=2\text{V}$ |
| Collector-Base Capacitance | C_{ob} | | | 12 | pF | $V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$ |

* Pulse Test : Pulse Width=0.3ms, Duty Cycle=1%

