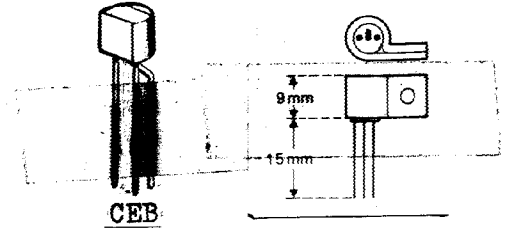


2N5810 THROUGH 2N5819

COMPLEMENTARY SILICON AF MEDIUM POWER TRANSISTORS

THE 2N5810 THROUGH 2N5819 ARE SILICON PLANAR EPITAXIAL TRANSISTORS FOR USE IN AF DRIVERS AND OUTPUTS, AS WELL AS FOR UNIVERSAL APPLICATIONS. THEY ARE SUPPLIED IN TO-92F PLASTIC CASE WITH OPTIONAL X-67 HEAT SINK. THE 2N5810, 2, 4, 6, 8 ARE NPN AND ARE COMPLEMENTARY TO THE PNP 2N5811, 3, 5, 7, 9.

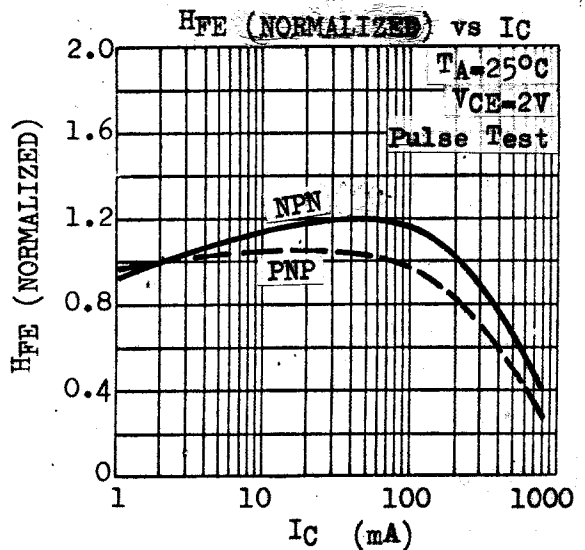
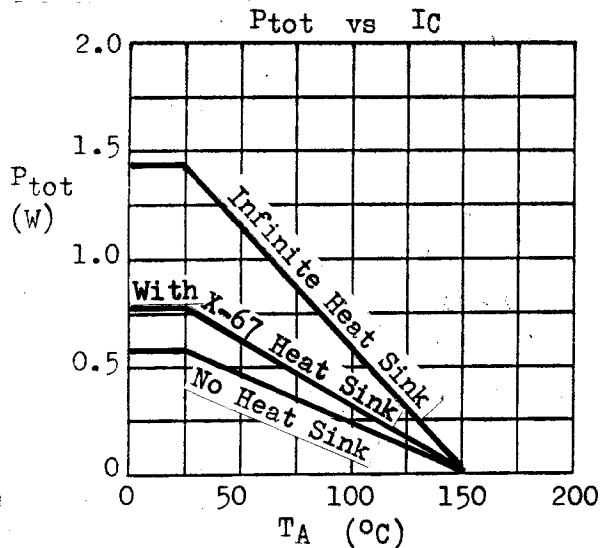
CASE TO-92F WITH X-67
LEAD PREFORMED HEAT SINK



ABSOLUTE MAXIMUM RATINGS For p-n-p devices, voltage and current values are negative.

| | | 2N5810, 2(NPN) 2N5811, 3(PNP) | 2N5814, 6, 8(NPN) 2N5815, 7, 9(PNP) |
|---|----------------|----------------------------------|--|
| Collector-Base Voltage | V_{CB0} | 35V | 50V |
| Collector-Emitter Voltage ($V_{BE}=0$) | V_{CES} | 35V | 50V |
| Collector-Emitter Voltage ($I_B=0$) | V_{CEO} | 25V | 40V |
| Emitter-Base Voltage | V_{EBO} | 5V | |
| Collector Current | I_C | 0.75A | |
| Collector Peak Current ($t \leq 10\text{ms}$) | I_{CM} | 1.5A | |
| Total Power Dissipation @ $T_C \leq 25^\circ\text{C}$ | P_{tot} | 1.4W | |
| With X-67 Heat Sink @ $T_A \leq 25^\circ\text{C}$ | | 800mW | |
| No Heat Sink @ $T_A \leq 25^\circ\text{C}$ | | 625mW ** | |
| Operating Junction & Storage Temperature | T_j, T_{stg} | -55 to 150°C | |

** 500mW in JEDEC registration.



MICRO ELECTRONICS LTD.

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

| PARAMETER | SYMBOL | 2N5810 thru' 2N5819 | | UNIT | TEST CONDITIONS |
|--|------------------------|---------------------|------|---------------|--|
| | | MIN | MAX | | |
| Collector-Base Breakdown Voltage 2N5810, 1, 2, 3 2N5814, 5, 6, 7, 8, 9 | BV _{CES} | 35 | | V | $I_C=0.01\text{mA}$ $V_{BE}=0$ |
| | | 50 | | V | |
| Collector-Emitter Breakdown Voltage 2N5810, 1, 2, 3 2N5814, 5, 6, 7, 8, 9 | LV _{CEO} * | 25 | | V | $I_C=10\text{mA}$ $I_B=0$ |
| | | 40 | | V | |
| Collector Cutoff Current | I _{CBO} | | 100 | nA | $V_{CB}=25\text{V}$ $I_E=0$ $T_A=100^\circ\text{C}$ |
| | | | 15 | μA | |
| Emitter Cutoff Current | I _{EBO} | | 10 | μA | $V_{EB}=5\text{V}$ $I_C=0$ |
| Collector-Emitter Saturation Voltage | V _{CE(sat)} * | | 0.75 | V | $I_C=500\text{mA}$ $I_B=50\text{mA}$ |
| Base-Emitter Saturation Voltage | V _{BE(sat)} * | | 1.2 | V | $I_C=500\text{mA}$ $I_B=50\text{mA}$ |
| Base-Emitter Voltage | V _{BE} * | 0.6 | 1.1 | V | $I_C=500\text{mA}$ $V_{CE}=2\text{V}$ |
| D.C. Current Gain 2N5810, 1 2N5812, 3 2N5814, 5 2N5816, 7 2N5818, 9 | H _{FE} * | | 60 | 200 | $I_C=2\text{mA}$ $V_{CE}=2\text{V}$ |
| | | | 150 | 500 | |
| | | | 60 | 120 | |
| | | | 100 | 200 | |
| | | | 150 | 300 | |
| | | | | | |
| D.C. Current Gain 2N5810, 1 2N5812, 3 2N5814, 5 2N5816, 7 2N5818, 9 | H _{FE} * | | 45 | | $I_C=500\text{mA}$ $V_{CE}=2\text{V}$ |
| | | | 60 | | |
| | | | 20 | | |
| | | | 25 | | |
| | | | 25 | | |
| | | | | | |
| Current Gain-Bandwidth Product 2N5810, 1, 4, 5 2N5816, 7 2N5812, 3, 8, 9 | f _T | 100 | | MHz | $I_C=50\text{mA}$ $V_{CE}=2\text{V}$ |
| | | 120 | | MHz | |
| | | 135 | | MHz | |
| | | | | | |
| Collector-Base Capacitance | C _{ob} | | 15 | pF | $V_{CB}=10\text{V}$ $I_E=0$ $f=1\text{MHz}$ |
| Emitter-Base Capacitance | C _{ib} | | 55 | pF | $V_{EB}=0.5\text{V}$ $I_C=0$ $f=1\text{MHz}$ |

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

