

**PIRGO**  
ELECTRONICS INC**POWER TRANSISTOR**  
**ENGINEERING BULLETIN**

A P I ELECTRONICS INC 13 DE 0043592 0000125 1

TYPE PG2167, 5 AMP PNP SILICON PLANAR POWER TRANSISTORS

TO-5

80 MHz (typical)

4 WATTS at 100°C CASE

ABSOLUTE MAXIMUM RATING at 25°C AMBIENT (Unless otherwise noted)

| RATING                           |            | UNIT  |
|----------------------------------|------------|-------|
| Collector-Base Voltage           | 100        | Volts |
| Emitter-Base Voltage             | 7          | Volts |
| Collector-Emitter Voltage        | 80         | Volts |
| Collector Current                | 5          | Amps  |
| Base Current                     | 0.5        | Amps  |
| Storage Temperature              | -65 to 200 | °C    |
| Operating Junction Temperature   | -65 to 200 | °C    |
| Dissipation at 100°C Case        | 4          | Watts |
| Dissipation at 25°C Ambient Temp | 1.25       | Watts |

ELECTRICAL CHARACTERISTICS at 25°C Case Temp (Unless otherwise noted)

| SYMBOL          | CONDITIONS                                 | LIMIT |     | UNIT      |
|-----------------|--------------------------------------------|-------|-----|-----------|
|                 |                                            | MIN   | MAX |           |
| $BV_{CBO}$      | $I_C = 10\mu A$                            | 100   |     | Volts     |
| $BV_{CEO}$      | $I_C = 10mA$                               | 80    |     | Volts     |
| $BV_{EBO}$      | $I_E = 10\mu A$                            | 7     |     | Volts     |
| $BV_{CEO(sus)}$ | $I_B = 0, I_C = 100mA$                     | 70    |     | Volts     |
| $h_{fe}^*$      | $V_{CE} = 2V, I_C = 1A$                    | 40    | 120 |           |
|                 | $V_{CE} = 6V, I_C = 5A$                    | 15    |     |           |
|                 | $V_{CE} = 2V, I_C = 1A, T_C = -55^\circ C$ | 10    |     |           |
| $V_{CE(sat)}^*$ | $I_C = 1A, I_B = 0.1A$                     | 0.5   |     | Volts     |
|                 | $I_C = 5A, I_B = 0.5A$                     | 3     |     | Volts     |
| $V_{BE}^*$      | $I_C = 1A, I_B = 0.1A$                     | 1.5   |     | Volts     |
|                 | $I_C = 5A, I_B = 0.5A$                     | 2.5   |     | Volts     |
| $I_{CBO}$       | $V_{CB} = 60V, I_E = 0$                    | 0.1   |     | $\mu Amp$ |
| $I_{EBO}$       | $V_{EB} = 7V$                              | 10    |     | $\mu Amp$ |

**PIRGO ELECTRONICS INC.**

A Sprague Electric Company Subsidiary

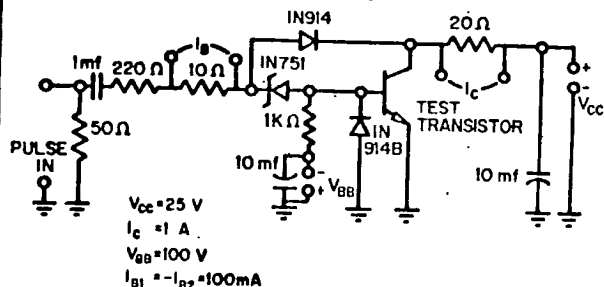
Pembroke Road, Concord, N.H. 03301

PG-2167-1X

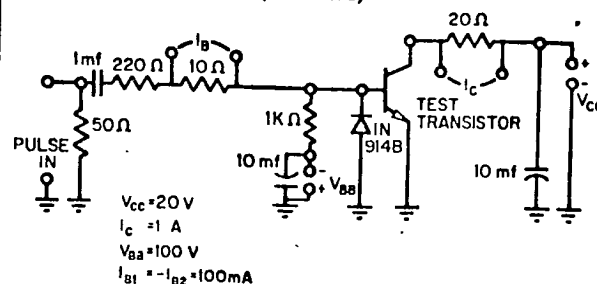
## ELECTRICAL CHARACTERISTICS at 25°C (cont.)

| SYMBOL     | CONDITIONS                                       | LIMIT |     | UNIT            |
|------------|--------------------------------------------------|-------|-----|-----------------|
|            |                                                  | MIN   | MAX |                 |
| $I_{CEX}$  | $V_{CE}=100V, V_{BE}=-0.5V$                      |       | 10  | $\mu\text{Amp}$ |
|            | $V_{CE}=60V, V_{EB}=0.5V, T_C=150^\circ\text{C}$ |       | 50  | $\mu\text{Amp}$ |
| $ h_{fe} $ | $V_{CE}=10V, I_C=0.2A, f=10\text{MHz}$           | 2     |     |                 |
| $t_r$      | See Circuit No. 1                                |       | 80  | nsec            |
| $t_s$      | See Circuit No. 1                                |       | 60  | nsec            |
| $t_f$      | See Circuit No. 1                                |       | 80  | nsec            |
| $t_{on}$   | See Circuit No. 2                                |       | 0.1 | $\mu\text{sec}$ |
| $t_{off}$  | See Circuit No. 2                                |       | 1.5 | $\mu\text{sec}$ |

CIRCUIT NO. 1

PULSE RESPONSE MEASUREMENT CIRCUIT  
(Unsaturated)

CIRCUIT NO. 2

PULSE RESPONSE MEASUREMENT CIRCUIT  
(Saturated)

\*Pulse test: PW = 300 $\mu\text{sec}$ ; 2% duty cycle.

pg-2167-2x