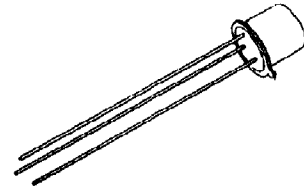


# Silicon Unijunction Transistor

2N2840

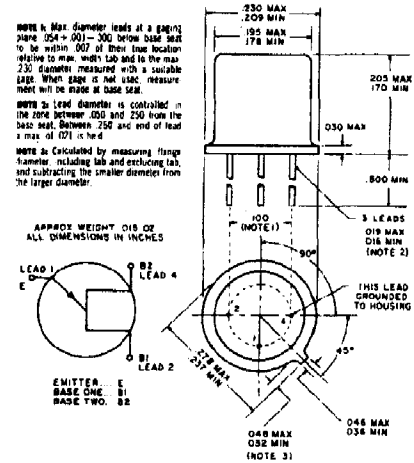


absolute maximum ratings: (25°C)

|                             |             |       |
|-----------------------------|-------------|-------|
| Power Dissipation*          | 300         | mw    |
| RMS Emitter Current         | 50          | ma    |
| Peak Emitter Current**      | 2           | amps  |
| Emitter Reverse Voltage     | 30          | volts |
| Interbase Voltage           | 35          | volts |
| Operating Temperature Range | -65 to +150 | °C    |
| Storage Temperature Range   | -65 to +175 | °C    |

\*Derate 2.4 mw/°C increase in ambient temperature. Maximum power available to the transistor must be limited by external circuitry to be within this rating.

\*\*Capacitor Discharge—10 μfd or less, 30 volts or less.

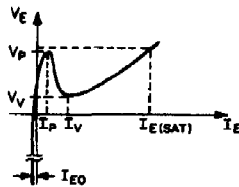


electrical characteristics: (25°C)

**PARAMETER**

| PARAMETER  | Min.         | Typ. | Max. |      |       |
|--|--------------|------|------|------|-------|
| Emitter Peak Point Voltage ( $V_{BB} = 1.50V$ )                          | $V_P$        | 1.30 | 1.4  | 1.50 | volts |
| Emitter Peak Point Current ( $V_{BB} = 1.50V$ )                          | $I_P$        |      | 7.5  | 10   | μA    |
| Intrinsic Standoff Ratio ( $V_{BB} = 10V$ )***                           | $\eta$       |      | .62  |      |       |
| Emitter Valley Point Voltage ( $V_{BB} = 1.50V$ )                        | $V_V$        |      | .95  | 1.10 | volts |
| Emitter Valley Point Current ( $V_{BB} = 1.50V$ )                        | $I_V$        | .20  | .40  | .70  | ma    |
| Emitter Base Saturation Current ( $V_{BB} = 1.50V$ ; $V_{BB1} = 1.50V$ ) | $I_{E(SAT)}$ | 20   | 40   |      | ma    |
| Emitter Reverse Current ( $V_{BB} = 30V$ ; $I_{B1} = 0$ )                | $I_{EO}$     |      | .05  | 1    | μA    |
| Interbase Resistance ( $V_{BB} = 1.50V$ ; $I_E = 0$ )                    | $R_{BB}$     | 4.7  | 7    | 9.1  | KΩ    |

\*\*\* $\eta$  is defined by the equation  $V_T = \eta V_{BB} + V_D$  where  $V_D \sim .5V$ .



|       | TEMPERATURE COEFFICIENT, MV/°C |      |      |
|-------|--------------------------------|------|------|
|       | 10%                            | MED  | 90%  |
| $V_P$ | -2.8                           | -3.4 | -4.0 |
| $V_B$ | -1.7                           | -2.0 | -2.4 |



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