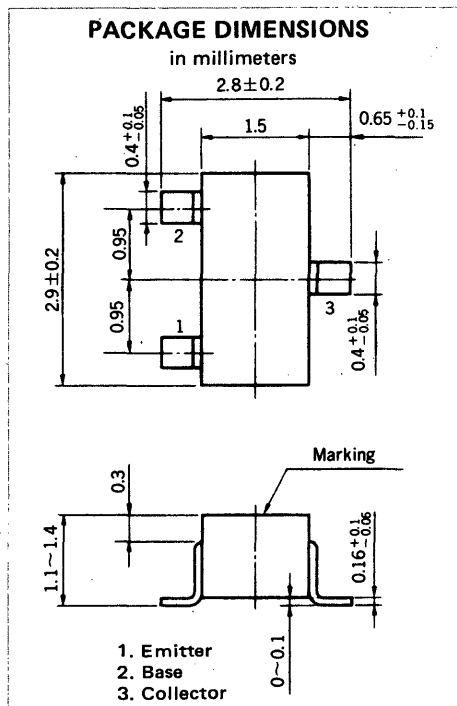


HIGH SPEED SWITCHING
PNP SILICON EPITAXIAL TRANSISTOR
MINI MOLD



FEATURES

- High Speed Switching : $t_{on} = 9.0$ ns TYP.
 $t_{off} = 19.0$ ns TYP.
- High f_T : $f_T = 1\ 800$ MHz TYP.
- Low C_{ob} : $C_{ob} = 2.0$ pF TYP.
- Complementary to 2SC3735

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Current ($T_a = 25^\circ\text{C}$)

| | | | |
|------------------------------|-----------|------|----|
| Collector to Base Voltage | V_{CBO} | -15 | V |
| Collector to Emitter Voltage | V_{CEO} | -15 | V |
| Emitter to Base Voltage | V_{EBO} | -4.5 | V |
| Collector Current (DC) | I_C | -50 | mA |

Maximum Power Dissipation

| | | | |
|--|-------|-----|----|
| Total power Dissipation at 25°C Ambient Temperature | P_T | 200 | mW |
|--|-------|-----|----|

Maximum Temperatures

| | | | |
|---------------------------|-----------|-------------|------------------|
| Junction Temperature | T_j | 150 | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to +150 | $^\circ\text{C}$ |

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

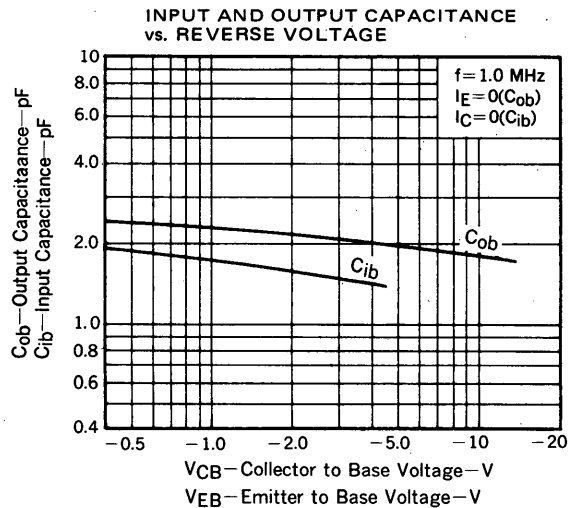
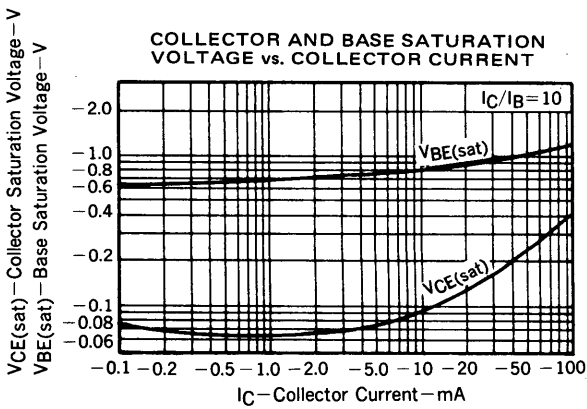
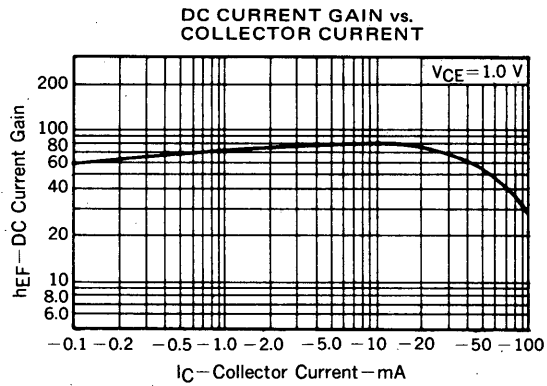
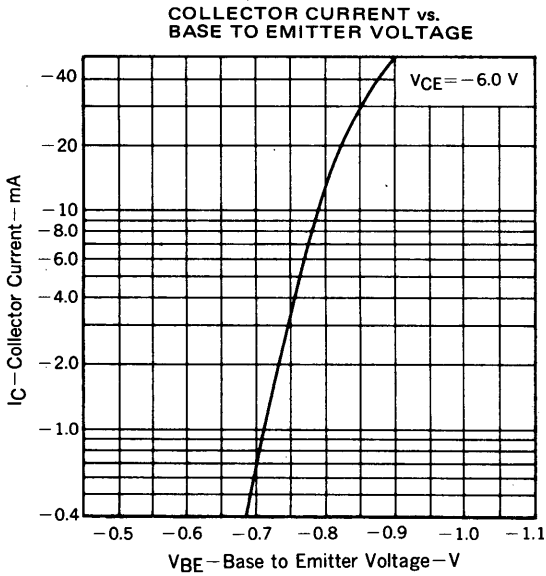
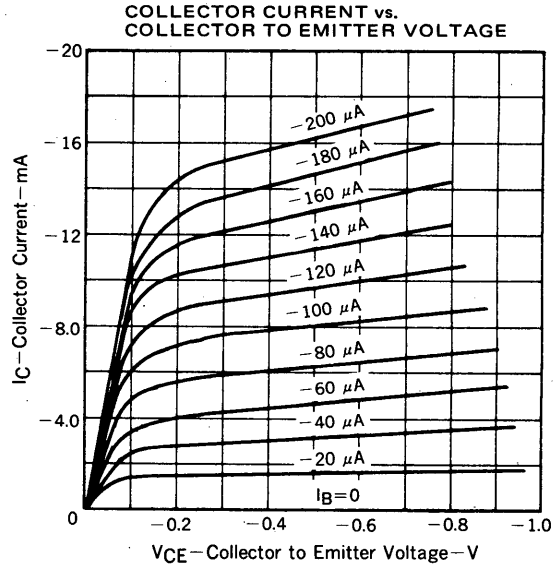
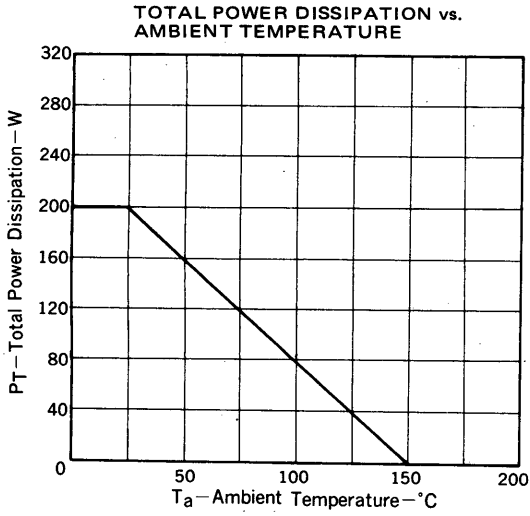
| CHARACTERISTIC | SYMBOL | MIN. | TYP. | MAX. | UNIT | TEST CONDITIONS |
|------------------------------|-----------------|------|-------|-------|------|--|
| Collector Cutoff Current | I_{CBO} | | | -100 | nA | $V_{CB} = -8.0$ V, $I_E = 0$ |
| Emitter Cutoff Current | I_{EBO} | | | -100 | nA | $V_{EB} = -3.0$ V, $I_C = 0$ |
| DC Current Gain | h_{FE1}^* | 30 | 70 | | | $V_{CE} = -1.0$ V, $I_C = -1.0$ mA |
| DC Current Gain | h_{FE2}^* | 50 | 80 | 150 | | $V_{CE} = -1.0$ V, $I_C = -10$ mA |
| Collector Saturation Voltage | $V_{CE(sat)}^*$ | | -0.09 | -0.20 | V | $I_C = -10$ mA, $I_B = -1.0$ mA |
| Base Saturation Voltage | $V_{BE(sat)}^*$ | | -0.80 | -0.95 | V | $I_C = -10$ mA, $I_B = -1.0$ mA |
| Gain Bandwidth Product | f_T | 800 | 1800 | | MHz | $V_{CE} = -10$ V, $I_E = 10$ mA |
| Output Capacitance | C_{ob} | | 2.0 | 3.0 | pF | $V_{CB} = -5.0$ V, $I_E = 0$, $f = 1.0$ MHz |
| Turn-on Time | t_{on} | | 9.0 | 20 | ns | $I_C = -10$ mA $I_{B1} = -I_{B2} = -1.0$ mA |
| Storage Time | t_{stg} | | 16 | 40 | ns | |
| Turn-off Time | t_{off} | | 19 | 40 | ns | |

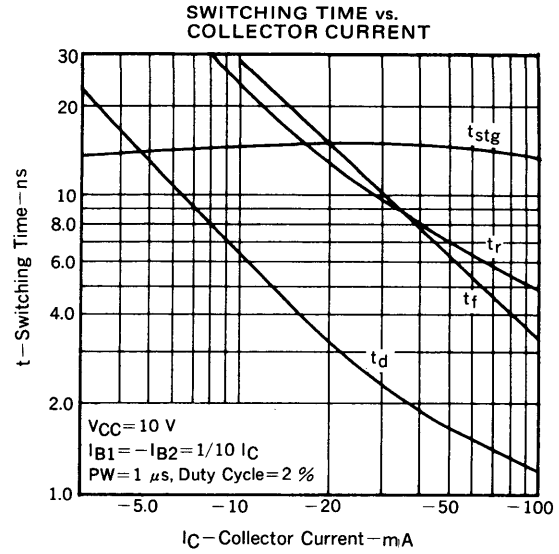
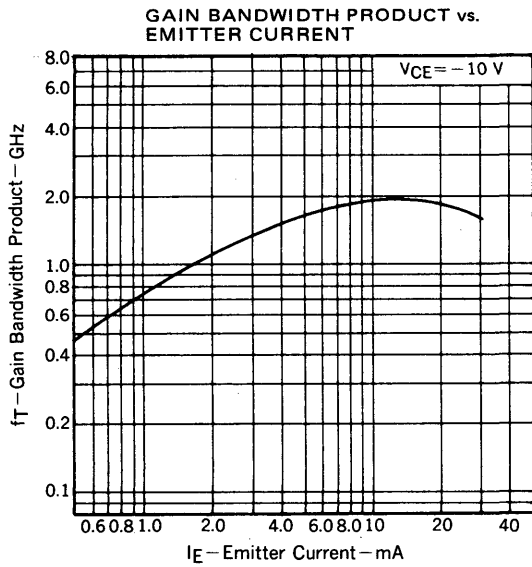
* Pulsed: $PW \leq 350$ μs , Duty Cycle $\leq 2\%$

h_{FE2} Classification

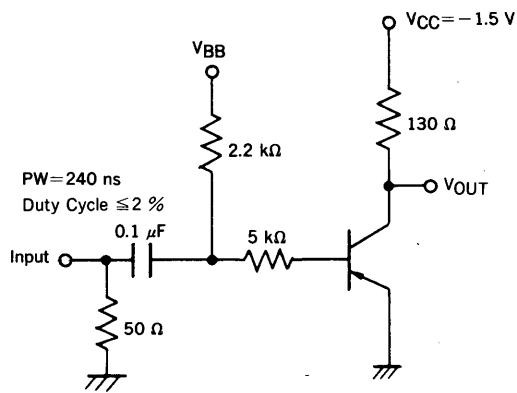
| | | |
|-----------|-----------|-----------|
| Making | Y33 | Y34 |
| h_{FE2} | 50 to 100 | 75 to 150 |

TYPICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

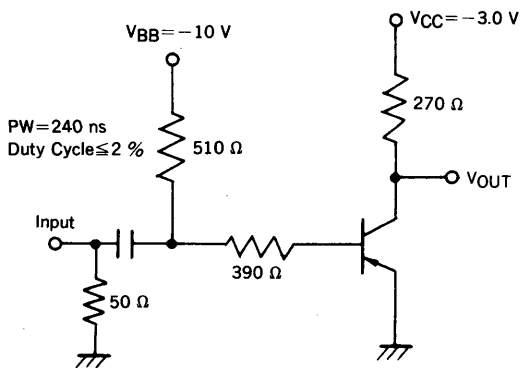
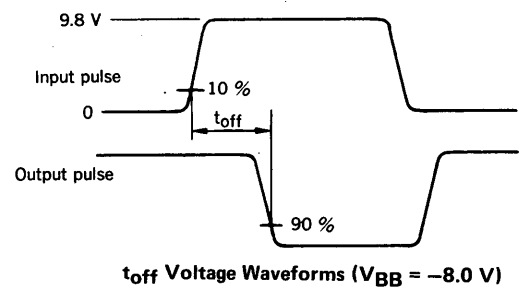
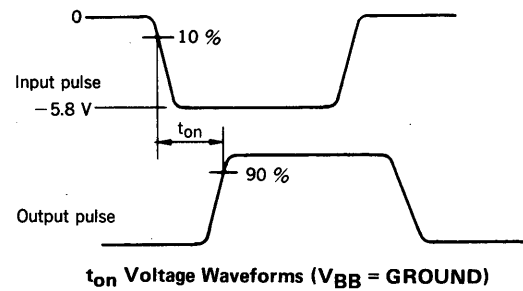




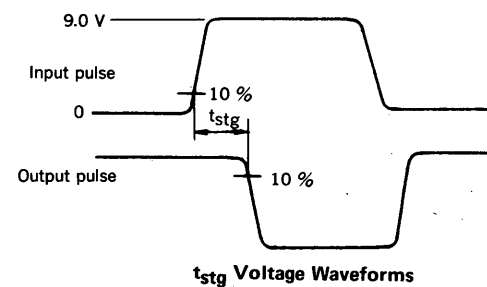
SWITCHING TIME TEST CIRCUIT



t_{on}, t_{off} Switching



t_{stg} Switching



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