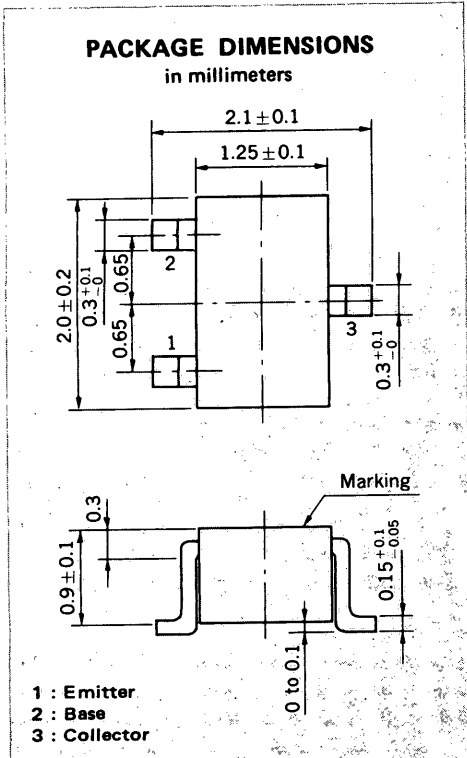
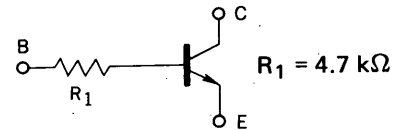


MEDIUM SPEED SWITCHING
RESISTOR BUILT-IN TYPE NPN TRANSISTOR



FEATURES

- Resistor Built-in TYPE



- Complementary to GN1L3Z

ABSOLUTE MAXIMUM RATINGS

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

| | | | |
|---|-----------|-------------|------------------|
| Collector to Base Voltage | V_{CBO} | 60 | V |
| Collector to Emitter Voltage | V_{CEO} | 50 | V |
| Emitter to Base Voltage | V_{EBO} | 5 | V |
| Collector Current (DC) | I_C | 100 | mA |
| Collector Current (Pulse) | I_C | 200 | mA |
| Maximum Power Dissipation | | | |
| Total Power Dissipation | | | |
| at 25°C Ambient Temperature | P_T | 150 | 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 | $V_{CB} = 50\text{ V}, I_E = 0$ |
| DC Current Gain | h_{FE1}^* | 135 | 450 | 600 | | $V_{CE} = 5.0\text{ V}, I_C = 5.0\text{ mA}$ |
| DC Current Gain | h_{FE2}^* | 100 | 380 | | | $V_{CE} = 5.0\text{ V}, I_C = 50\text{ mA}$ |
| Collector Saturation Voltage | $V_{CE(sat)}^*$ | | 0.04 | 0.2 | V | $I_C = 5.0\text{ mA}, I_B = 0.25\text{ mA}$ |
| Low-Level Input Voltage | V_{IL}^* | | 0.54 | 0.5 | V | $V_{CE} = 5.0\text{ V}, I_C = 100\text{ }\mu\text{A}$ |
| High-Level Input Voltage | V_{IH}^* | 1.2 | 0.71 | | V | $V_{CE} = 0.2\text{ V}, I_C = 5.0\text{ mA}$ |
| Input Resistor | R_1 | 3.29 | 4.7 | 6.11 | k Ω | |
| Turn-on Time | t_{on} | | 0.03 | 0.2 | μs | $V_{CC} = 5\text{ V}, V_{in} = 5\text{ V}$ |
| Storage Time | t_{stg} | | 3.2 | 5.0 | μs | $R_L = 1\text{ k}\Omega$ |
| Turn-off Time | t_{off} | | 3.4 | 6.0 | μs | $PW = 2\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$ |

* Pulsed: $PW \leq 350\text{ }\mu\text{s}, \text{Duty Cycle} \leq 2\%$

h_{FE} Classification

| Marking | L36 | L37 | L38 |
|-----------|------------|------------|------------|
| h_{FE1} | 135 to 270 | 200 to 400 | 300 to 600 |

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

