

# GTM CORPORATION

ISSUED DATE :2004/06/09  
REVISED DATE :2004/11/29B

## G2N5551

### NPN EPITAXIAL PLANAR TRANSISTOR

#### Description

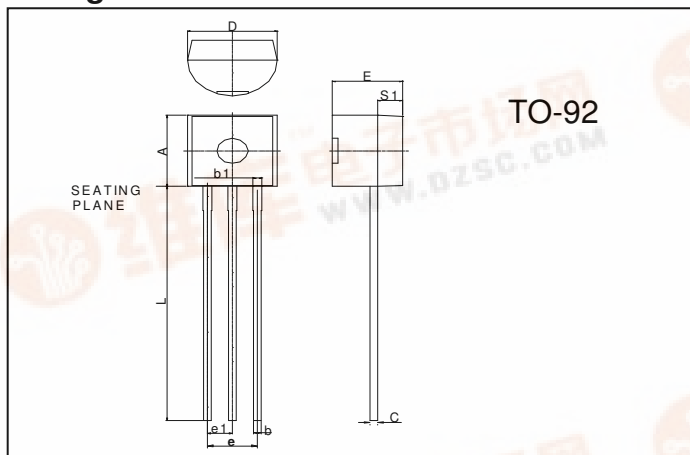
The G2N5551 is designed for general purpose switching and amplifier applications.

#### Features

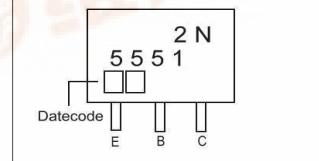
\*Complementary to PNP Type G2N5401

\*High Collector – Emitter Breakdown Voltage ( $V_{CE0} > 160V$  (@ $I_C=1mA$ )

#### Package Dimensions



#### Marking:



| REF. | Millimeter |      | REF. | Millimeter |       |
|------|------------|------|------|------------|-------|
|      | Min.       | Max. |      | Min.       | Max.  |
| A    | 4.45       | 4.7  | D    | 4.44       | 4.7   |
| S1   | 1.02       | -    | E    | 3.30       | 3.81  |
| b    | 0.36       | 0.51 | L    | 12.70      | -     |
| b1   | 0.36       | 0.76 | e1   | 1.150      | 1.390 |
| C    | 0.36       | 0.51 | e    | 2.42       | 2.66  |

#### Absolute Maximum Ratings at $T_a = 25^\circ C$

| Parameter                    | Symbol    | Ratings    | Unit       |
|------------------------------|-----------|------------|------------|
| Junction Temperature         | $T_j$     | +150       | $^\circ C$ |
| Storage Temperature          | $T_{stg}$ | -55 ~ +150 | $^\circ C$ |
| Collector to Base Voltage    | $V_{CBO}$ | 180        | V          |
| Collector to Emitter Voltage | $V_{CEO}$ | 160        | V          |
| Emitter to Base Voltage      | $V_{EBO}$ | 6          | V          |
| Collector Current            | $I_C$     | 600        | mA         |
| Total Power Dissipation      | $P_D$     | 625        | mW         |

#### Characteristics at $T_a = 25^\circ C$

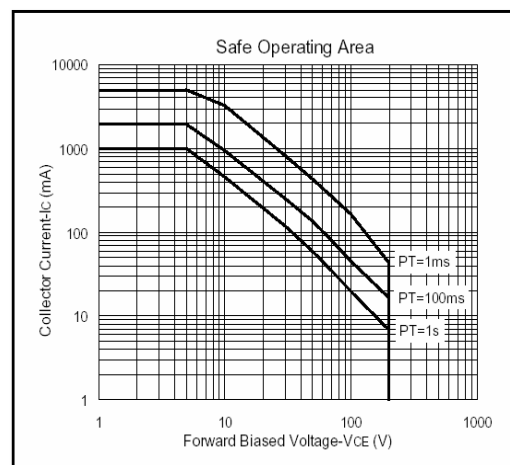
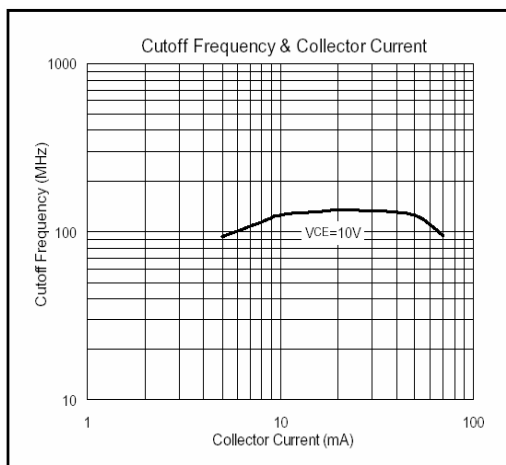
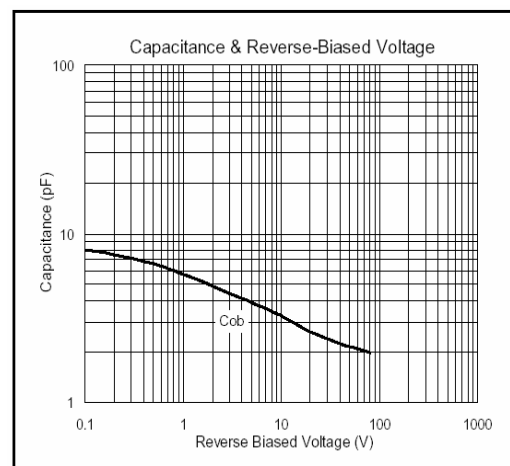
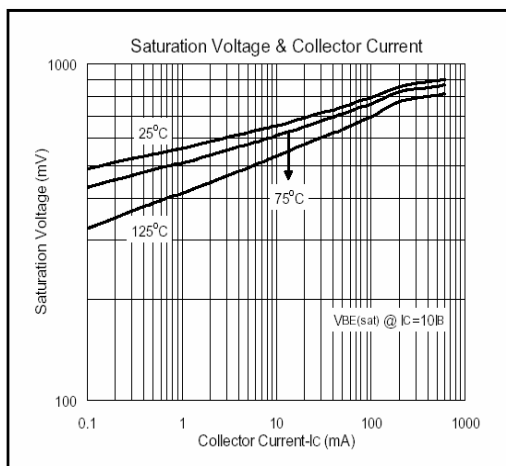
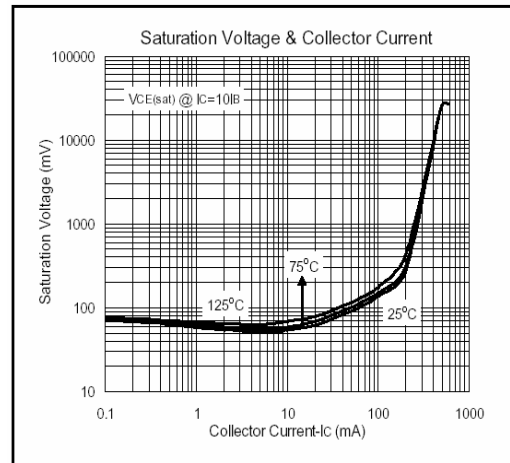
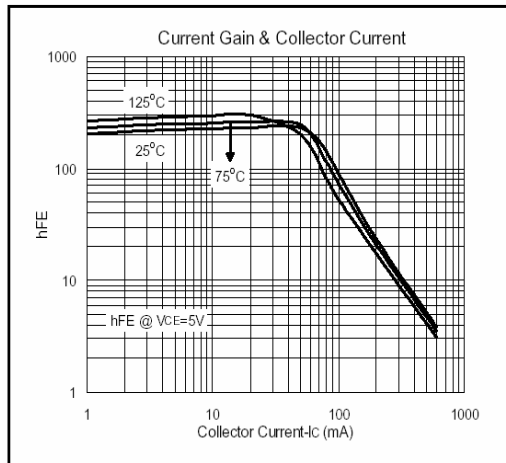
| Symbol           | Min. | Typ. | Max. | Unit | Test Conditions                  |
|------------------|------|------|------|------|----------------------------------|
| $V_{CBO}$        | 180  | -    | -    | V    | $I_C=100\mu A, I_E=0$            |
| $V_{CEO}$        | 160  | -    | -    | V    | $I_C=1mA, I_B=0$                 |
| $V_{EBO}$        | 6    | -    | -    | V    | $I_E=10\mu A, I_C=0$             |
| $I_{CBO}$        | -    | -    | 50   | nA   | $V_{CB}=120V, I_E=0$             |
| $I_{EBO}$        | -    | -    | 50   | nA   | $V_{EB}=4V, I_C=0$               |
| * $V_{CE(sat)1}$ | -    | -    | 0.15 | V    | $I_C=10mA, I_B=1mA$              |
| * $V_{CE(sat)2}$ | -    | -    | 0.2  | V    | $I_C=50mA, I_B=5mA$              |
| * $V_{BE(sat)1}$ | -    | -    | 1    | V    | $I_C=10mA, I_B=1mA$              |
| * $V_{BE(sat)2}$ | -    | -    | 1    | V    | $I_C=50mA, I_B=5mA$              |
| * $h_{FE1}$      | 80   | -    | -    |      | $V_{CE}=5V, I_C=1mA$             |
| * $h_{FE2}$      | 80   | 160  | 400  |      | $V_{CE}=5V, I_C=10mA$            |
| * $h_{FE3}$      | 50   | -    | -    |      | $V_{CE}=5V, I_C=50mA$            |
| $f_T$            | 100  |      | 300  | MHz  | $V_{CE}=10V, I_C=10mA, f=100MHz$ |
| $C_{ob}$         | -    | -    | 6    | pF   | $V_{CB}=10V, f=1MHz, I_E=0$      |

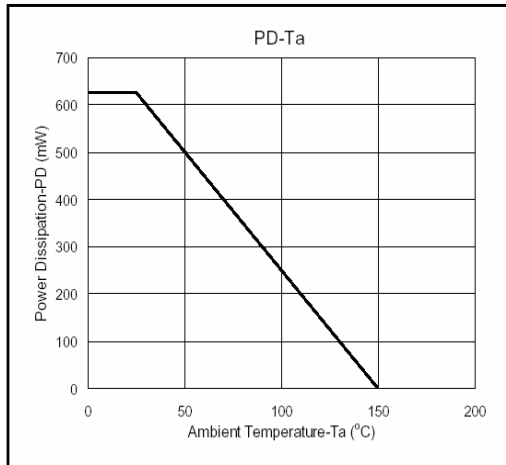
\* Pulse Test: Pulse Width  $\leq 380\mu s$ , Duty Cycle  $\leq 2\%$

#### Classification OF $h_{FE2}$

| Rank  | A      | N       | C       |
|-------|--------|---------|---------|
| Range | 80-200 | 100-250 | 160-400 |

## Characteristics Curve





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