

The 2N1651, 2N1652, and 2N1653 DAP transistors are designed for efficient high current switching at high frequencies. The diffused base gives very low input resistance and high cutoff frequency while still maintaining high breakdown voltage. The low input resistance gives better circuit stabilization at high temperatures and greatly increases the maximum available power gain. These transistors are capable of switching up to 1600 watts.

The diffused base alloy power transistors feature welded construction with a vacuum-tight seal to insure long life and stable operation.

Absolute Maximum Ratings:

| | V_{CE} | V_{CB} | V_{EB}^{**} | I_C | P_C^* | T_{stg}^C | T_J^C |
|--------|----------|----------|---------------|-------|---------|-------------|---------|
| | Vdc | Vdc | Vdc | Adc | W | °C | °C |
| 2N1651 | 60 | 60 | 2.0 | 25 | 100 | -60 to +110 | 110 |
| 2N1652 | 100 | 100 | See | | | | |
| 2N1653 | 120 | 120 | Page 4 | | | | |

* P_C is the maximum average power dissipation. It can be exceeded during the switching time.

Electrical Characteristics: Mounting base temperature 25°C unless otherwise specified.

| | Symb. | Min. | Max. | Units |
|--|----------------------|--|------------|-------------------|
| Current Gain $V_{CE} = -1.5$ Vdc; $I_C = 25$ Adc | h_{FE} | 20 | - | - |
| Current Gain $V_{CE} = -2$ Vdc; $I_C = 10$ Adc | h_{FE} | 35 | 140 | - |
| Collector Saturation Voltage $I_C = 25$ Adc; $I_B = 2.5$ Adc | V_{CE} V_{BE} | - | 1.0 1.5 | Vdc Vdc |
| Emitter-Base Voltage $I_{EBO} = 50$ mAdc; $I_C = 0$ | BV_{EBO} | 1.5 | - | Vdc |
| Collector-Emitter Breakdown Voltage $I_C = 500$ mAdc; $R_{BF} = \infty$ | BV_{CEO} | 2N1651: 30 2N1652: 60 2N1653: 80 | - | Vdc Vdc Vdc |

Typical Switching Characteristics:

| Switching Times | Fall Time t_f | Storage Time t_s | Rise Time t_r | Units |
|-----------------|--------------------|-----------------------|--------------------|-------|
| | 1.1 | 1.8 | 19 | µsec |

Conditions:

| V_{CC} | I_C | I_B (on) | I_B (off) | R_L |
|----------|-------|------------|-------------|-------|
| Vdc | Adc | Adc | Adc | ohms |
| 12.5 | 25 | 2.5 | - | 0.5 |
| 12.5 | 25 | - | 2.5 | 0.5 |

