

# Medium Power Transistor (25V, 1.2A)

## 2SD2537

### ●Features

- 1) High DC current gain.
- 2) High emitter-base voltage,  $V_{EB0}=12V$ ,
- 3) Low saturation voltage,  $V_{CE(sat)}=0.3V$  (Max.) at  $I_C/I_E=500mA/10mA$ .

### ●Packaging specifications and hFE

|                              |         |
|------------------------------|---------|
| Type                         | 2SD2537 |
| Package                      | MPT3    |
| hFE                          | VW      |
| Marking                      | DV*     |
| Code                         | T100    |
| Basic ordering unit (pieces) | 1000    |

\* Denotes hFE

### ●Electrical characteristics (Ta=25°C)

| Parameter                            | Symbol        | Min. | Typ. | Max. | Unit    | Conditions                                |
|--------------------------------------|---------------|------|------|------|---------|-------------------------------------------|
| Collector-base breakdown voltage     | $BV_{CBO}$    | 30   | —    | —    | V       | $I_C=10\mu A$                             |
| Collector-emitter breakdown voltage  | $BV_{CEO}$    | 25   | —    | —    | V       | $I_C=1mA$                                 |
| Emitter-base breakdown voltage       | $BV_{EBO}$    | 12   | —    | —    | V       | $I_E=10\mu A$                             |
| Collector cutoff current             | $I_{CBO}$     | —    | —    | 0.3  | $\mu A$ | $V_{CB}=30V$                              |
| Emitter cutoff current               | $I_{EBO}$     | —    | —    | 0.3  | $\mu A$ | $V_{EB}=12V$                              |
| Collector-emitter saturation voltage | $V_{CE(sat)}$ | —    | —    | 0.3  | V       | $I_C/I_E=500mA/10mA$ *                    |
| DC current transfer ratio            | hFE           | 820  | —    | 2700 | —       | $V_{CE}/I_C=5V/0.5A$                      |
| Transition frequency                 | $f_T$         | —    | 200  | —    | MHz     | $V_{CE}=10V$ , $I_E=-50mA$ , $f=100MHz$ * |
| Output capacitance                   | $C_{ob}$      | —    | 20   | —    | pF      | $V_{CB}=10V$ , $I_E=0A$ , $f=1MHz$        |

\* Measured using pulse current.

### ●Absolute maximum ratings (Ta=25°C)

| Parameter                   | Symbol    | Limits   | Unit         |
|-----------------------------|-----------|----------|--------------|
| Collector-base voltage      | $V_{CBO}$ | 30       | V            |
| Collector-emitter voltage   | $V_{CEO}$ | 25       | V            |
| Emitter-base voltage        | $V_{EBO}$ | 12       | V            |
| Collector current           | $I_C$     | 1.2      | A (DC)       |
|                             |           | 2        | A (Pulse) *1 |
| Collector power dissipation | $P_C$     | 2        | W *2         |
|                             |           | 0.3      | W            |
| Junction temperature        | $T_J$     | 150      | °C           |
| Storage temperature         | $T_{stg}$ | -55~+150 | °C           |

\*1 Single pulse  $P_w=100ms$

\*2 When mounted on a 40 x 40 x 0.7 mm ceramic board.

(94L-1061-D212)

# General Purpose Transistor (50V, 0.15A)

## 2SD2351 / 2SD2226K / 2SD2227S

### ●Features

- 1) High DC current gain.
- 2) High emitter-base voltage,  $V_{EB0}=12V$ .
- 3) Low saturation voltage, typically  $V_{CE(sat)}=0.3V$  at  $I_C/I_E=50mA/5mA$ .

### ●Packaging specifications and hFE

| Type                         | 2SD2351 | 2SD2226K | 2SD2227S |
|------------------------------|---------|----------|----------|
| Package                      | UMT3    | SMT3     | SPT      |
| hFE                          | VW      | VW       | W        |
| Marking                      | BJ*     | BJ*      | —        |
| Code                         | T106    | T146     | TP       |
| Basic ordering unit (pieces) | 3000    | 3000     | 5000     |

\* Denotes hFE

### ●Absolute maximum ratings (Ta=25°C)

| Parameter                   | Symbol                        | Limits   | Unit        |
|-----------------------------|-------------------------------|----------|-------------|
| Collector-base voltage      | $V_{CBO}$                     | 60       | V           |
| Collector-emitter voltage   | $V_{CEO}$                     | 50       | V           |
| Emitter-base voltage        | $V_{EBO}$                     | 12       | V           |
| Collector current           | $I_C$                         | 0.15     | A (DC)      |
|                             |                               | 0.2      | A (Pulse) * |
| Collector power dissipation | 2SD2351, 2SD2226K<br>2SD2227S | 0.2      | W           |
|                             |                               | 0.3      | W           |
| Junction temperature        | $T_J$                         | 150      | °C          |
| Storage temperature         | $T_{stg}$                     | -55~+150 | °C          |

\* Single pulse  $P_w=100ms$

### ●Electrical characteristics (Ta=25°C)

| Parameter                            | Symbol            | Min. | Typ. | Max. | Unit    | Conditions                               |
|--------------------------------------|-------------------|------|------|------|---------|------------------------------------------|
| Collector-base breakdown voltage     | $BV_{CBO}$        | 60   | —    | —    | V       | $I_C=10\mu A$                            |
| Collector-emitter breakdown voltage  | $BV_{CEO}$        | 50   | —    | —    | V       | $I_C=1mA$                                |
| Emitter-base breakdown voltage       | $BV_{EBO}$        | 12   | —    | —    | V       | $I_E=10\mu A$                            |
| Collector cutoff current             | $I_{CBO}$         | —    | —    | 0.3  | $\mu A$ | $V_{CB}=50V$                             |
| Emitter cutoff current               | $I_{EBO}$         | —    | —    | 0.3  | $\mu A$ | $V_{EB}=12V$                             |
| Collector-emitter saturation voltage | $V_{CE(sat)}$     | —    | —    | 0.3  | V       | $I_C/I_E=50mA/5mA$ *                     |
| DC current transfer ratio            | 2SD2351, 2SD2226K | 560  | —    | 2700 | —       | $V_{CE}/I_C=5V/1mA$ *                    |
|                                      | 2SD2227S          | 1200 | —    | 2700 | —       | $V_{CE}/I_C=5V/1mA$ *                    |
| Transition frequency                 | $f_T$             | —    | 250  | —    | MHz     | $V_{CE}=5V$ , $I_E=-10mA$ , $f=100MHz$ * |
| Output capacitance                   | $C_{ob}$          | —    | 3.5  | —    | pF      | $V_{CB}=5V$ , $I_E=0A$ , $f=1MHz$        |

\* Measured using pulse current.

(94S-374-D215)