

Ultra high-speed switching diode arrays

DA114 / DA121 / DA227

DAN202K / DAN202U / DAN212K / DAN222

DAP202K / DAP202U / DAP222

●Applications

Ultra high speed switching





●Features

- 1) Four types of packaging are available.
- 2) High reliability.
- 3) High speed. (Typical recovery time= 1.5ns)
- 4) Suitable for high packing density layout.

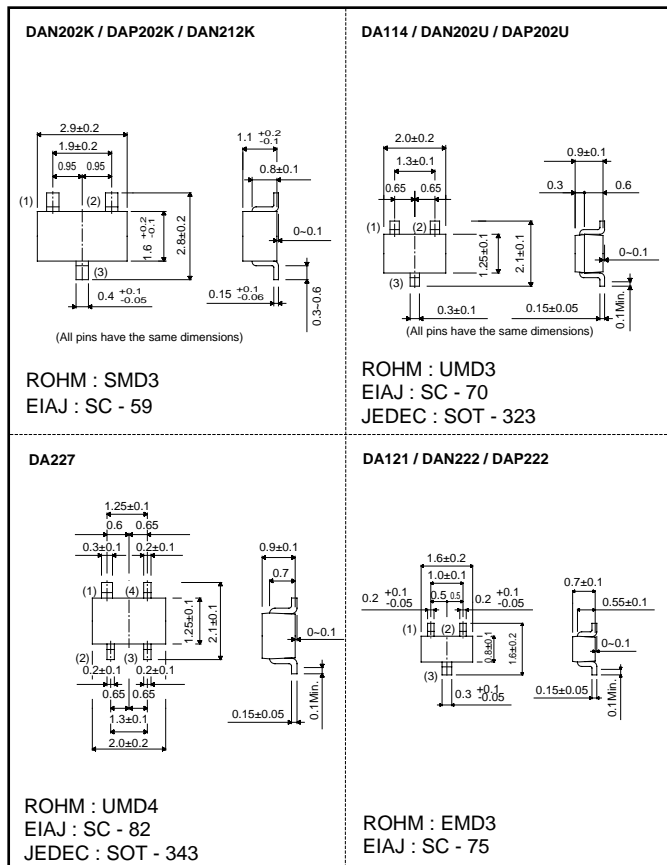
●Construction

Silicon epitaxial planar

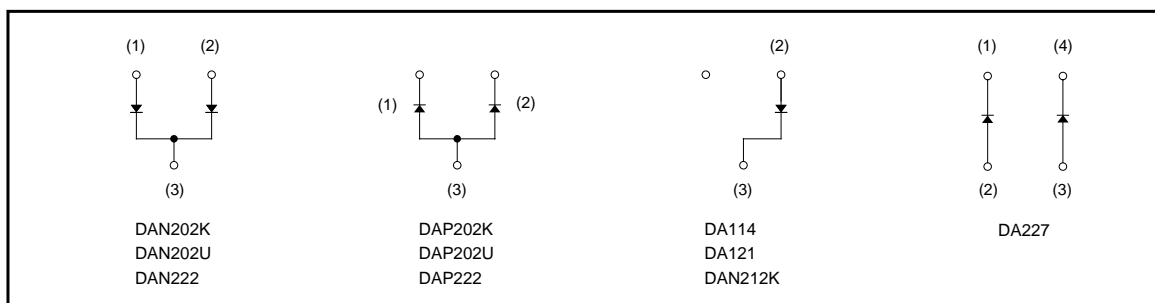
●Marking

| | |
|------------------------------|---|
| DAN222 DAN202U DAN202K |  |
| DAP222 DAP202U DAP202K |  |
| DA121 DA114 DAN212K |  |
| DA227 |  |

●External dimensions (Units : mm)



●Equivalent circuits



●Absolute maximum ratings (Ta=25°C)

| Type | Peak reverse voltage V _{RM} (V) | DC reverse voltage V _R (V) | Peak forward current I _{FM} (mA) | Mean rectifying current I _O (mA) | Surge current (1μs) I _{surge} (A) | Power dissipation (TOTAL) Pd(mW) | Junction temperature T _j (°C) | Storage temperature T _{stg} (°C) | TYPE |
|---------|---|--|--|--|--|--|---|--|------|
| DA114 | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | N |
| DA121 | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | N |
| DAN202K | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | N |
| DAP202K | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | P |
| DAN202U | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | N |
| DAP202U | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | P |
| DAN212K | 80 | 80 | 300 | 100 | 4 | 200 | 150 | -55~+150 | N |
| DAN222 | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | N |
| DAP222 | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | P |
| DA227 | 80 | 80 | 300 | 100 | 4 | 150 | 150 | -55~+150 | N |

●Electrical characteristics (Ta=25°C)

| Type | Forward voltage | | Reverse current | | Capacitance between terminals | | | Reverse recovery time | | |
|---------|----------------------------|---------------------|-----------------------------|--------------------|-------------------------------|--------------------|---------|------------------------------|--------------------|---------------------|
| | V _F (V) Max. | Cond. | I _R (μA) Max. | Cond. | C _T (pF) Max. | Cond. | | t _{rr} (ns) Max. | Cond. | |
| | | I _F (mA) | | V _R (V) | | V _R (V) | f (MHz) | | V _R (V) | I _F (mA) |
| DA114 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DA121 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAN202K | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAP202K | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAN202U | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAP202U | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAN212K | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAN222 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DAP222 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |
| DA227 | 1.2 | 100 | 0.1 | 70 | 3.5 | 6 | 1 | 4 | 6 | 5 |

●Electrical characteristic curves (Ta=25°C unless specified otherwise)

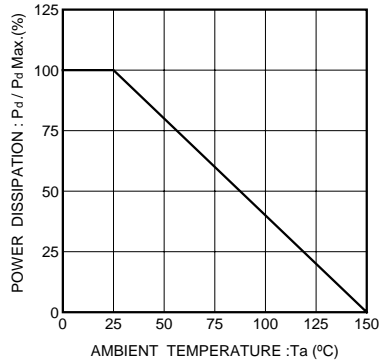


Fig. 1 Derating curve (mounting on glass epoxy PCBs)

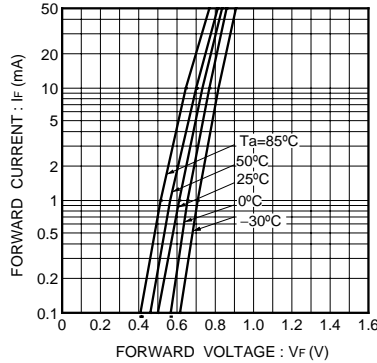


Fig. 2 Forward current vs. forward voltage (P TYPE)

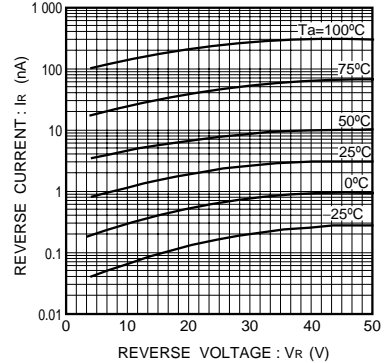


Fig. 3 Reverse current vs. reverse voltage (P TYPE)

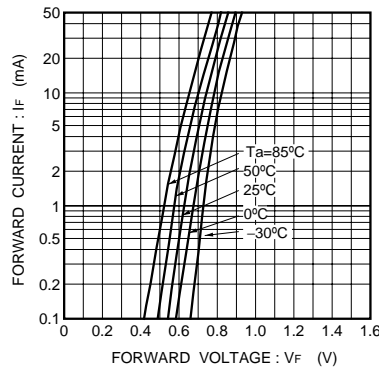


Fig. 4 Forward current vs. forward voltage (N TYPE)

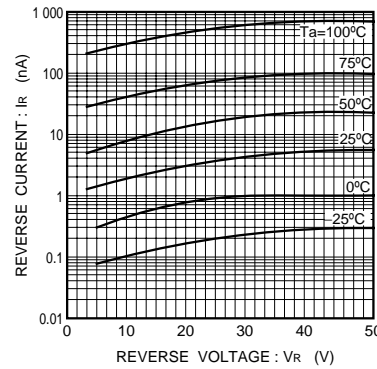


Fig. 5 Reverse current vs. reverse voltage (N TYPE)

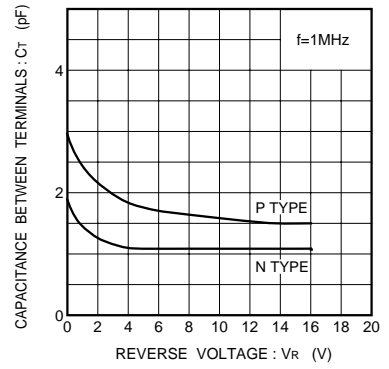


Fig. 6 Capacitance between terminals vs. reverse voltage

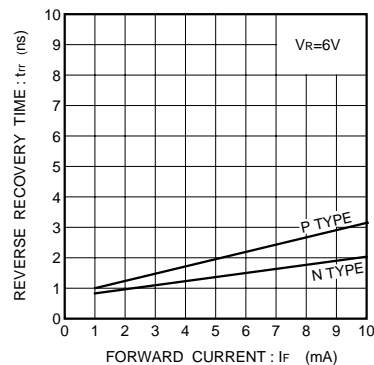


Fig. 7 Reverse recovery time vs. forward current

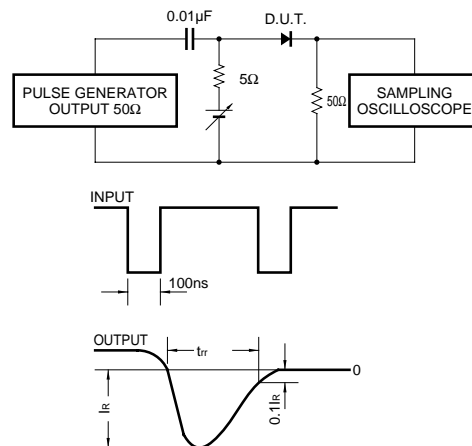


Fig. 8 Reverse recovery time (tr) measurement circuit