

Switching diode

DA221 / DA204U / DA204K DA228U / DA228K / UMR12N

●Applications

Bias circuits
Protection circuits

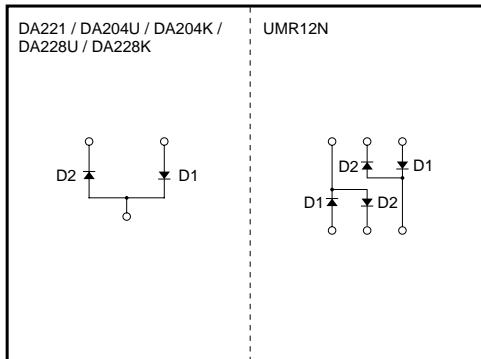
●Features

- 1) Three types of packages are available.
(EMD3,UMD3,SMD3)
- 2) Two diode elements are connected in series
($V_F \times 2$) per circuit.

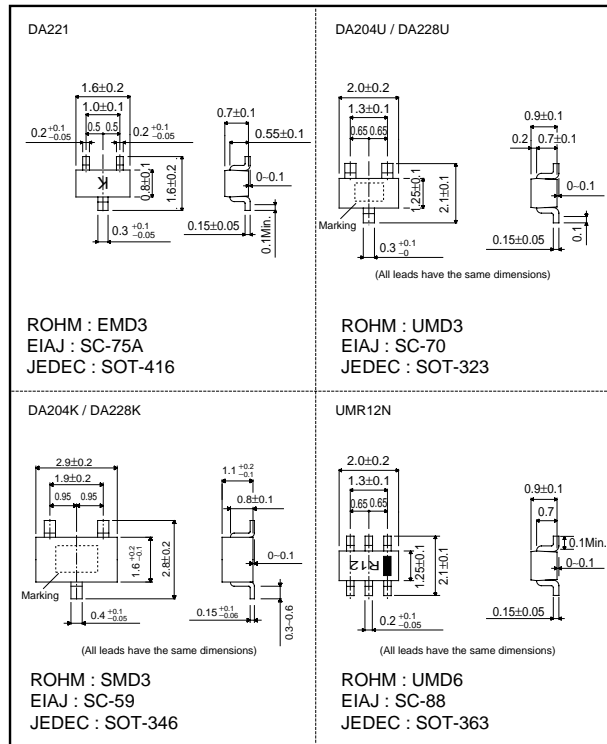
●Construction

Silicon epitaxial planar

●Circuit



●External dimensions (Units : mm)



●Marking

| EMD3 | | UMD3 | | UMD6 | | SMD3 | |
|-------|---|--------|--|--------|---|--------|--|
| DA221 | | DA204U | | UMR12N | | DA204K | |
| - | - | DA228U | | - | - | DA228K | |

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Diodes

●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} (mA) | Power dissipation (TOTAL) Pd(mW) | Junction temperature T _J (°C) | Storage temperature T _{stg} (°C) |
|--------|---|--|--|--|--|-------------------------------------|---|--|
| DA221 | 20 | 20 | 200 | 100 | 300 | 150 | 150 | -55~+150 |
| DA204U | 20 | 20 | 200 | 100 | 300 | 200 | 150 | -55~+150 |
| DA228U | 80 | 80 | 200 | 100 | 300 | 200 | 150 | -55~+150 |
| DA204K | 20 | 20 | 200 | 100 | 300 | 200 | 150 | -55~+150 |
| DA228K | 80 | 80 | 200 | 100 | 300 | 200 | 150 | -55~+150 |
| UMR12N | 80 | 80 | 200 | 100 | 300 | 200 | 150 | -55~+150 |

●Electrical characteristics (Ta=25°C)

| Type | Forward voltage | | Reverse current | | Fig. |
|--------|----------------------------|------------------------------|-----------------------------|-----------------------------|------|
| | V _F (V) Max. | Cond. I _F (mA) | I _R (μA) Max. | Cond. V _R (V) | |
| DA221 | 1.0 | 10 | 0.1 | 15 | 1~4 |
| DA204U | 1.0 | 10 | 0.1 | 15 | 1~4 |
| DA228U | 1.2 | 100 | 0.1 | 80 | 5~9 |
| DA204K | 1.0 | 10 | 0.1 | 15 | 1~4 |
| DA228K | 1.2 | 100 | 0.1 | 80 | 5~9 |
| UMR12N | 1.2 | 100 | 0.1 | 80 | 5~9 |

●Electrical characteristic curves (Ta=25°C)

(DA221, DA204U, DA204K) ...Fig.1~4

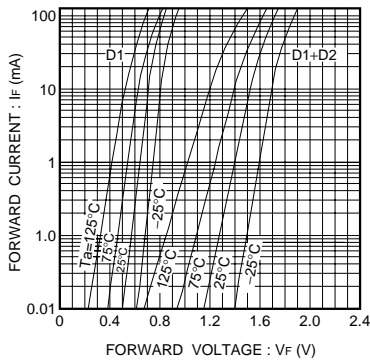


Fig.1 Forward characteristics

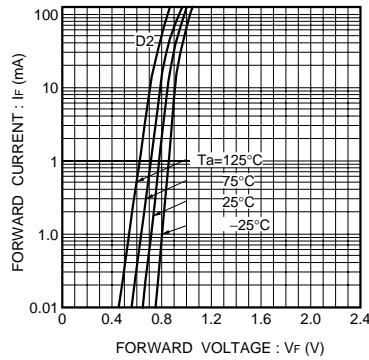


Fig.2 Forward characteristics

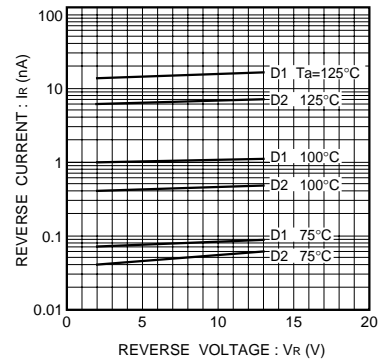


Fig.3 Reverse characteristics

Diodes

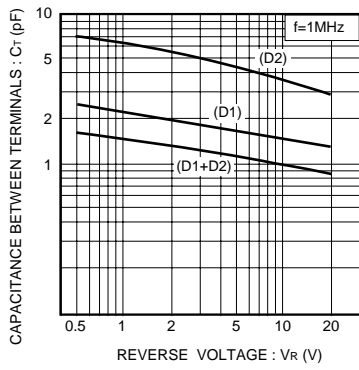


Fig.4 Capacitance between terminals characteristics

(DA228U, DA228K, UMR12N) ...Fig.5~9

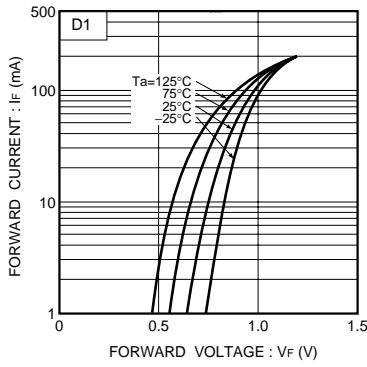


Fig.5 Forward characteristics

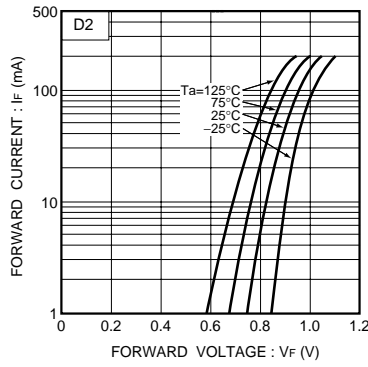


Fig.6 Forward characteristics

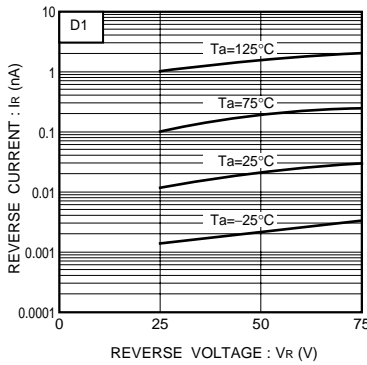


Fig.7 Reverse characteristics

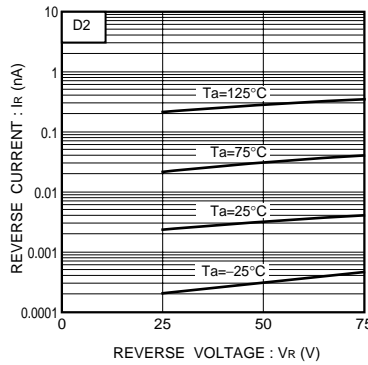


Fig.8 Reverse characteristics

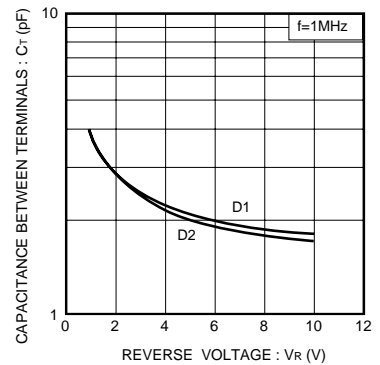


Fig.9 Capacitance between terminals characteristics