

# Ultra High-Speed Switching Diode Array

## FMN1/FMP1/IMN10/IMN11/IMP11 UMN1N/UMP1N/UMN11N/UMP11N

● Applications

Ultra high speed switching

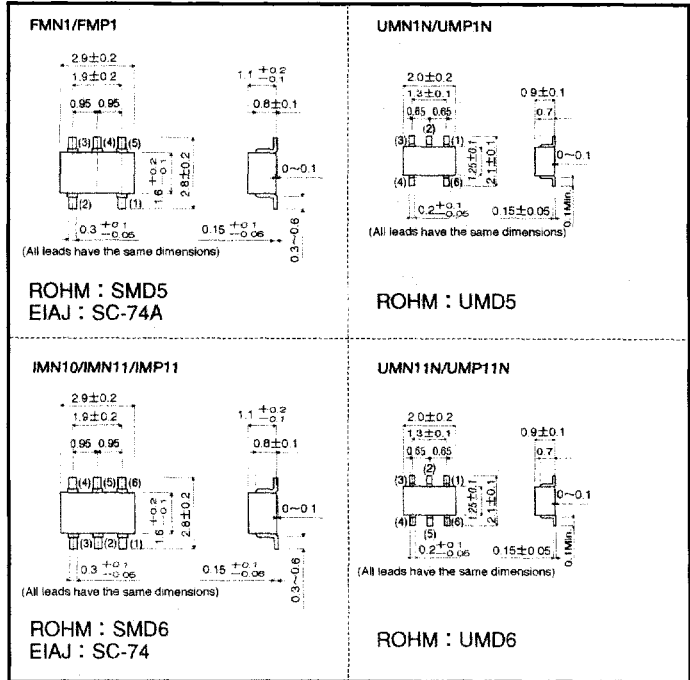
● Features

- 1) Three or four diodes contained in same area as SMD3 and UMD3.
- 2) Can be mounted using automatic mounters.
- 3) All diodes have the same characteristics.

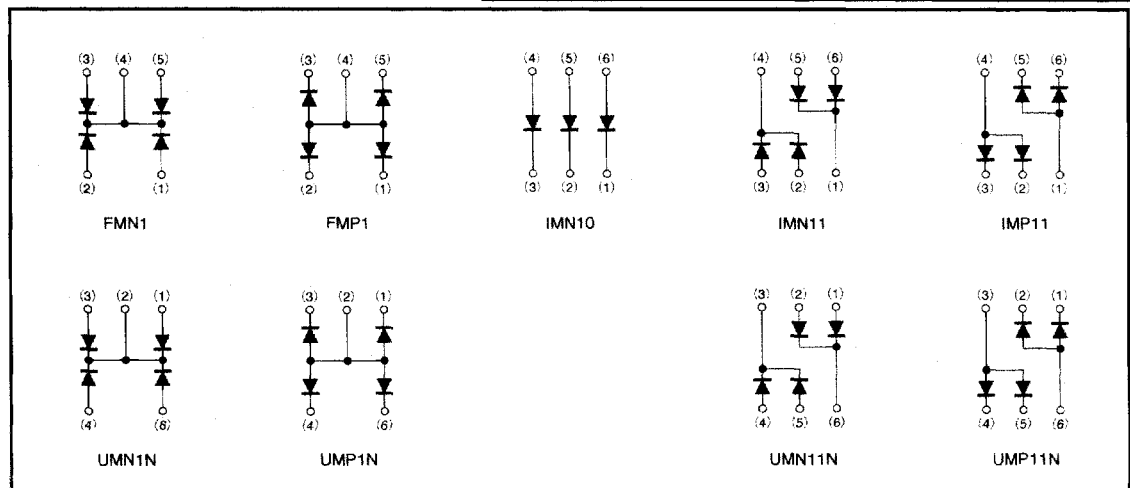
● Construction

Silicon epitaxial planar

● External dimensions (Units: mm)



● Equivalent circuits



● Absolute maximum ratings (Ta=25°C)

Type	Peak reverse voltage V <sub>RM</sub> (V)	DC reverse voltage V <sub>R</sub> (V)	Peak forward current I <sub>FM</sub> (mA)	Mean rectifying current I <sub>o</sub> (mA)	Surge current (1 μs) I <sub>surge</sub> (A)	Power dissipation (TOTAL) Pd (mW)	Junction temperature T <sub>j</sub> (°C)	Storage temperature T <sub>stg</sub> (°C)
FMN1 UMN1N	80	80	80	25	250m	150/80	150	-55~150
FMP1 UMP1N	80	80	80	25	250m	150/80	150	-55~150
IMN10	80	80	300	100	4	300 *	150	-55~150
IMN11 UMN11N	80	80	300	100	4	300 */150	150	-55~150
IMP11 UMP11N	80	80	300	100	4	300 */150	150	-55~150

\* Not to exceed 200 mW per element.

● Electrical characteristics (Ta=25°C)

Type	Forward voltage		Reverse current		Capacitance between terminals			Reverse recovery time			
	V <sub>F</sub> (V) Max.	Cond. I <sub>F</sub> (mA)	I <sub>R</sub> (μA) Max.	Cond. V <sub>R</sub> (V)	C <sub>T</sub> (pF) Max.	Cond.		t <sub>rr</sub> (ns) Max.	Cond.		Measurement circuit
						V <sub>R</sub> (V)	f (MHz)		V <sub>R</sub> (V)	I <sub>F</sub> (mA)	
FMN1 UMN1N	0.9	5	0.1	70	3.5	6	1	4	6	5	Fig.8
FMP1 UMP1N	0.9	5	0.1	70	3.5	6	1	4	6	5	Fig.8
IMN10	1.2	100	0.1	70	3.5	6	1	4	6	5	Fig.8
IMN11 UMN11N	1.2	100	0.1	70	3.5	6	1	4	6	5	Fig.8
IMP11 UMP11N	1.2	100	0.1	70	3.5	6	1	4	6	5	Fig.8

● Electrical characteristic curves (Ta=25°C)

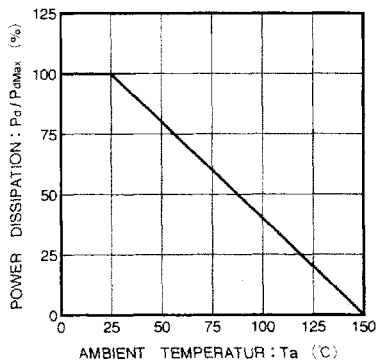


Fig. 1 Power reduction curve

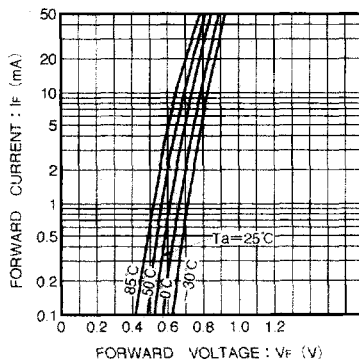


Fig. 2 Forward current vs. forward voltage characteristic (P TYPE)

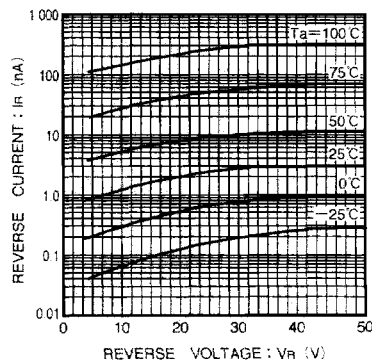


Fig. 3 Reverse current vs. reverse voltage characteristic (P TYPE)

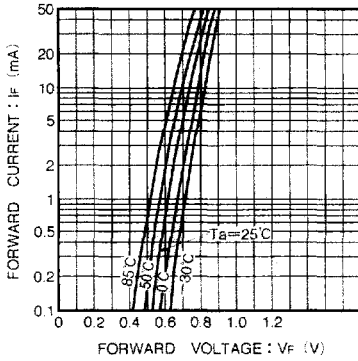


Fig. 4 Forward current vs. forward voltage characteristic (N TYPE)

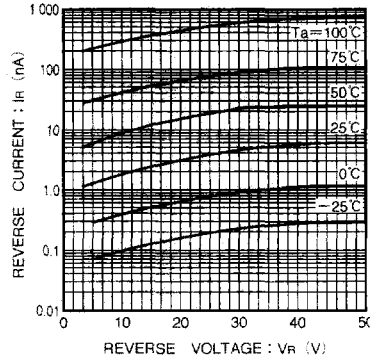


Fig. 5 Reverse current vs. reverse voltage characteristic (N TYPE)

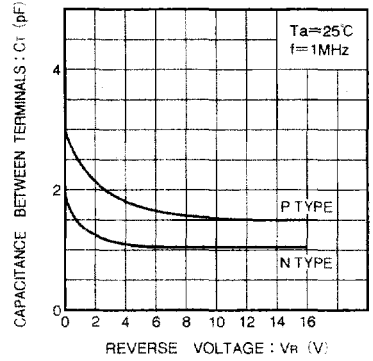


Fig. 6 Capacitance between terminals vs. reverse voltage characteristic

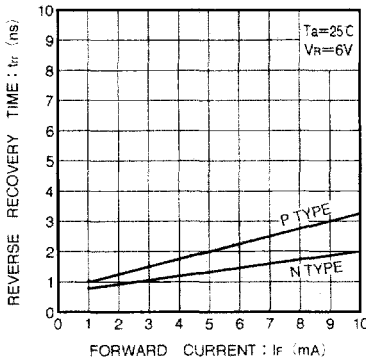


Fig. 7 Reverse recovery time vs. forward current characteristic

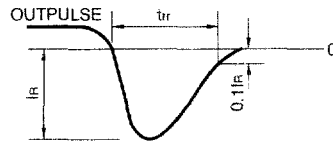
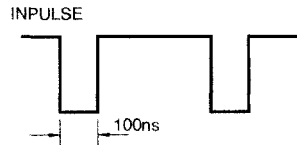
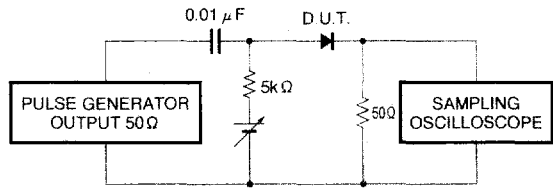


Fig. 8 Reverse recovery time ( $T_r$ ) measurement circuit