



> PN rectifiers

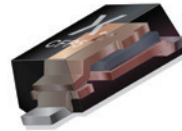
Fast recovery, space-saving devices

Nexperia's PN rectifiers deliver high power density while minimizing reverse recovery time and loss. For efficient switching and power conversion applications in automotive, industrial and consumer markets.

Portfolio

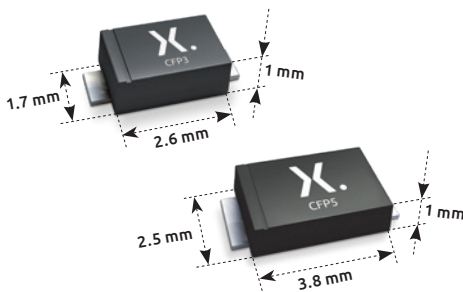
- > 200–400 V **Hyperfast** switching parts with optimized recovery time (t_{rr}) of < 25 ns
- > 200–400 V **Standard** parts – t_{rr} > 500 ns
- > High speed switching capability
- > Low voltage drop ($V_F @ I_{F \max} \sim 1$ V)
- > Low leakage current, also at high temperature
- > AEC-Q101 qualified parts ($175^\circ\text{C } T_{J(\max)}$)

Robust & thermally efficient



- > High current pulse capability due to solid copper clip-bond
- > High power density / high efficiency planar technology
- > Low magnetic inductance optimizes switching behavior

Economical use of space





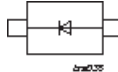
- > Just 1 mm package height for thin PCB designs
- > More than 50% footprint savings – CFP3 compared to SMA

Key applications

- > Polarity protection
- > DC/DC conversion
- > AC/DC conversion
- > Freewheeling of inductive load
- > Standard switching application
- > High-speed switching application



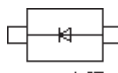
PN rectifiers

Types in **bold** represent new products

V_R max (V)	V_F max (V)	(@) I_F (A)	I_R max (μA)	(@) V_R (V)	t_{rr} max (ns)	Package	CFP5 (SOD128)	CFP3 (SOD123W)	
									
							Size (mm)	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0
							P_{tot} (mW) @ 1cm ²	1050	950
200	0.875	1	0.2	200	25			ES1DVR	
	0.93	1	0.2	200	25			ES1DR	
	0.95	2	0.2	200	25			ES2DVR	
	0.98	2	0.2	200	25			ES2DR	
	0.95	2	0.2	200	25			ES2DP	
	0.98	3	0.2	200	30			ES3DP	
	1.1	1	3	200	3000			S1DR	
400	1.25	1	0.4	400	25		ES1GR		

PN rectifiers - Automotive qualified

Types in **bold** represent new products

V_R max (V)	V_F max (V)	(@) I_F (A)	I_R max (μA)	(@) V_R (V)	t_{rr} max (ns)	Package	CFP5 (SOD128)	CFP3 (SOD123W)	
									
							Size (mm)	3.8 x 2.5 x 1.0	2.6 x 1.7 x 1.0
							P_{tot} (mW) @ 1cm ²	1050	950
200	0.93	1	0.2	200	25			PNE20010ER	
	0.98	2	0.2	200	25			PNE20020ER	
	0.95	2	0.2	200	25			PNE20020EP	
	0.98	3	0.2	200	30			PNE20030EP	
400	1.1	1	1	400	1800		PNS40010ER		

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