

Recovery rectifiers

Hyperfast recovery, space-saving devices

Nexperia's recovery 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 < 30 ns
- › High speed switching capability
- › Low voltage drop ($V_F @ I_{F,max} \sim 1\text{ V}$)
- › Low leakage current, also at high temperature
- › AEC-Q101 qualified parts ($175\text{ }^\circ\text{C } T_{J(max)}$)

Economical use of space



CFP3 (SOD123W)
 2.6 x 1.7 x 1.0 mm*
 $R_{th(j-sp)} = 18\text{ K/W}$



CFP5 (SOD128)
 3.8 x 2.5 x 1.0 mm*
 $R_{th(j-sp)} = 12\text{ K/W}$



CFP15B (SOT1289B)
 5.8 x 4.3 x 0.95 mm*
 $R_{th(j-sp)} = 3\text{ K/W}$

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

*Body size (l x w x h)

Robust & thermally efficient




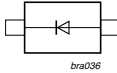
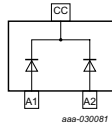
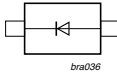
- › High current pulse capability due to solid copper clip-bond
- › High power density / high efficiency planar technology
- › Low magnetic inductance optimizes switching behavior



Key applications

- › Polarity protection
- › DC/DC conversion
- › AC/DC conversion
- › Freewheeling of inductive load
- › Standard switching application
- › High-speed switching application
- › Solenoid control
- › Piezo injection

Recovery rectifiers

V_R max (V)	V_F max (V)	I_F (A)	I_R max (μ A)	$(@) V_R$ (V)	t_{rr} max (ns)	Package	Automotive-qualified		
							CFP5 (SOD128)	CFP3 (SOD123W)	CFP15B (SOT1289B)
									
							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	2150
200	0.93	1	0.2	200	25			PNE20010ER	
	0.98	2	0.2	200	25			PNE20020ER	
	0.95	2	1	200	25		PNE20020EP		
	0.98	3	1	200	30		PNE20030EP		
	0.94	2x3	1	200	30				PNE20060CPE
	0.95	2x4	1	200	30				PNE20080CPE
	0.95	2x5	1	200	30				PNE200100CPE
400	1.1	1	1	400	1800			PNS40010ER	

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